DOCUMENT RESUME

ED 236 153 SP 023 592

AUTHOR Lake, Sara
TITLE The Educator's Digest of Reform: A Comparison of 16 Recent Proposals for Improving America's Schools.
INSTITUTION San Mateo County Office of Education, Redwood City, CA. SMERC Information Center.
PUB DATE Jan 84
NOTE 172p.
AVAILABLE FROM SMERC Information Center, San Mateo County Office of Education, 333 Main St., Redwood City, CA 94063 ($10). Payment made out to County Schools Service Fund must accompany order.
PUB TYPE Information Analyses (070) -- Reports - Descriptive (141)

EDRS PRICE MF01/PC07 Plus Postage.
DESCRIPTORS College School Cooperation; Curriculum Development; *Educational Assessment; *Educational Change; Educational Improvement; *Educational Quality; Elementary Secondary Education; Faculty Development; Futures (of Society); *Position Papers; *Program Proposals; *Reports; School Administration; School Business Relationship; School Community Relationship; Teacher Education

ABSTRACT

This digest of recent proposals for educational reform provides a reference guide for those who wish to study these proposals in depth. Reports included are: (1) "Academic Preparation for College" (College Board Project Equality); (2) "ACSA's Recommendations on Standards" (Association of California School Administrators); (3) "Action for Excellence" (Education Commission of the States); (4) "Educational Reform: A Response from Educational Leaders" (Forum of Educational Organization Leaders); (5) "Education and Economic Progress" (Carnegie Corporation); (6) "High School" (Ernest L. Boyer); (7) "Improving Student Performance in California: Recommendations for the California Roundtable"; (8) "Making the Grade: Report of the Twentieth Century Fund Task Force on Federal Elementary and Secondary Education Policy"; (9) "Merit Pay Task Force Report" (U.S. House of Representatives Committee on Education and Labor); (10) "NASSP Develops Positions..." (National Association of Secondary School Principals); (11) "A Nation at Risk" (National Commission on Excellence in Education); (12) "The Paideia Proposal" and "Paideia Problems and Possibilities" (Mortimer J. Adler); (13) "A Place Called School" (John I. Goodlad); (14) "Raising Expectations: Model Graduation Requirements: Approved Unanimously by the California State Board of Education on June 10, 1983"; (15) "Senate Bill 813, Chapter 498 of the Statutes of 1983: The Hughes-Hart Education Act of 1983" (California State Legislature); and (16) "University of California Requirements for Freshman Admission (Effective 1986)." Part 1 discusses the proposals and their points of agreement, and includes charts showing their coverage of major issues. Part 2 contains a summary of each reform proposal, along with ordering information. In part 3, recommendations of all 16 proposals are compared by topic. Part 4 contains abstracts of selected school improvement reports, research studies, and subject-specific recommendations supplemental to the 16 main proposals. The final section provides a complete listing of the reports cited in parts 2, 3, and 4, plus a brief bibliography of useful background readings. (JD)

ED236153

THE EDUCATOR'S DIGEST OF REFORM

A COMPARISON OF 16 RECENT PROPOSALS FOR IMPROVING AMERICA'S SCHOOLS

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

SMERC

Kathy Clay

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

- This document has been reproduced as received from the person or organization originating it.
  Minor changes have been made to improve reproduction quality.
- Points of view or opinions stated in this document do not necessarily represent official NIE position or policy.

SP023592

THE EDUCATOR'S DIGEST OF REFORM:

A COMPARISON OF 16 RECENT PROPOSALS FOR IMPROVING AMERICA'S SCHOOLS

prepared by

Sara Lake
SMERC Information Center

January, 1984

SAN MATEO COUNTY OFFICE OF EDUCATION
333 Main Street, Redwood City, CA 94063
(415) 363-5450

ACKNOWLEDGEMENTS

The following personnel of the San Mateo County Office of Education have assisted in the preparation of this volume, although responsibility for its content rests with me. I would like to thank:

Tom Quinn for originating the idea and, along with Dick Sperisen and Don Halverson, providing copies of several of the proposals;

Sue Perry and Dave Shepard for their detective work in tracking down and ordering new reports, sometimes on their day of publication;

The SMERC staff and its Director who gave constant support to this work;

Jean Holbrook, Peter Burchyns, and Kathy Clay, who reviewed the drafts;

Sharon Dumas, who prepared the charts;

And especially Meralyn Baughman who typed the manuscripts, proving that it is possible to sit at a word processor nine hours a day for several weeks without losing one's sense of humor.

SAN MATEO COUNTY OFFICE OF EDUCATION
Superintendent of Schools
William K. Jennings
San Mateo County Board of Education
Jean Colby, President
J. Paul Bradley
Granville DeMerritt
Larry L. Foster
Mrs. Ercel M. Kern
Bert Mason
Carol A. Slavick
Assistant Superintendent, Educational
Support and Planning
Don Halverson
Director, SMERC Information Center
Jean Holbrook

Copies of this publication are available for $10.00 each from the SMERC Information Center, San Mateo County Office of Education, 333 Main Street, Redwood City, CA 94063. Telephone (415) 363-5450. Payment must accompany order. Make checks or purchase orders payable to: COUNTY SCHOOLS SERVICE FUND.

Copyright© 1984 by the San Mateo County Office of Education. Permission is granted to educators to duplicate small portions of this work for their own use but not for sale, provided that proper credit is given.

TABLE OF CONTENTS

Page

INTRODUCTION.....1

ABBREVIATIONS.....3

PART I: SYNTHESIS.....4

Chart: Key Issues.....8

Chart: Specific High School Course Requirements.....9

PART II: TEXT SUMMARIES

Academic Preparation for College. College Board Project EQuality.....10

"ACSA's Recommendations on Standards." Association of California School Administrators.....17

Action for Excellence. Education Commission of the States.....19

Education and Economic Progress. The Carnegie Corporation.....25

Educational Reform: A Response from Educational Leaders. Forum of Educational Organization Leaders.....27

High School. Ernest L. Boyer, The Carnegie Foundation for the Advancement of Teaching.....31

Improving Student Performance in California: Recommendations for the California Roundtable.....39

Making the Grade: Report of the Twentieth Century Fund Task Force on Federal Elementary and Secondary Education Policy.....43

Merit Pay Task Force Report. U. S. House of Representatives Committee on Education and Labor.....47

"NASSP Develops Positions. . ." National Association of Secondary School Principals.....50

A Nation at Risk. National Commission on Excellence in Education.....52

The Paideia Proposal and Paideia Problems and Possibilities. Mortimer J. Adler.....56

A Place Called School. John I. Goodlad.....61

Raising Expectations: Model Graduation Requirements: Approved Unanimously by the California State Board of Education on June 10, 1983.....67

Senate Bill 813, Chapter 498 of the Statutes of 1983: The Hughes-Hart Education Act of 1983. California State Legislature.....72

University of California Requirements for Freshman Admission (Effective 1986).....78

PART III: RECOMMENDATIONS IN COMPARISON.....80

TOPICS

Affirmative Action
Arts Education
Attendance
Bilingual Education
Business Role
Career Ladders
College Preparation
College Role
Community Involvement
Computer Literacy
Counseling and Guidance
Curriculum Development
Curriculum--Elementary
Curriculum--General
Curriculum--High School
Discipline
Dropouts
Educational Finance
Educational Technology
Electives
English Education
Federal Role
Gifted
Goals of Schooling
Graduate Surveys
Grouping for Instruction
Homework
Incentives
Instructional Materials
Instructional Time
Master Teachers
Mathematics Education
Merit Pay
Parents
Part-Time Teachers
Physical Education and Health
Preschool
Principals
Remedial Instruction
School Administration
School Day and Year
School Districts
School Size
Science Education
Second Language Instruction
Social Studies
Special Education
Staff Development
State Role
Student Promotion
Students
Study Skills
Teacher Certification
Teacher Education
Teacher Employment and Evaluation
Teacher Recruitment
Teacher Salaries
Teaching Conditions
Teaching Methods
Testing
Vocational Education

PART IV: OTHER REPORTS, PROJECTS, AND STUDIES

A Study of High Schools.....144

Redefining General Education in the American High School.....146

Educating Americans for the 21st Century.....148

Others.....153

PART V: REFERENCES

Reports Cited: 16 Recent Reform Proposals.....162

Other Reports, Projects, and Studies.....163

Additional Readings.....165

Introduction

This is a working document designed to assist educators, parents, and concerned citizens in reviewing, comparing, and making decisions about recent proposals for educational reform. It is not a critique or scholarly synthesis; it is intended to be an objective digest and a reference guide for those who wish to study these proposals in depth.

The volume has these special features:

- It is current and comprehensive. Sixteen major reform reports, the latest dated October 24, 1983, are presented in the main body of this document. Available information on projects in progress, selected research studies, and subject-specific reports is summarized in Part IV.

- It groups the recommendations of these sixteen proposals by topic, allowing readers to make their own comparisons.

- It provides page references for all recommendations and ordering information for all sixteen reports to facilitate further study.

- It has a California focus. Provisions of SB 813, the Hughes-Hart Education Act of 1983, are integrated with recommendations from reform proposals. Four other of the sixteen documents concern this State's schools: The State Board of Education's model graduation requirements; University of California admission requirements; the California Roundtable Report on improving student performance; and the recommendations of the Association of California School Administrators on high school graduation standards.

- It provides different levels of information to be consulted as needed: a brief overview on consensus points; charts on key issues and high school course requirements; summaries of each of the sixteen texts; and a comparison of their recommendations by topic.

Organization

Part I consists of a brief discussion of the sixteen proposals and their points of agreement, plus charts showing their coverage of major issues and any specific recommendations made on high school course requirements. Readers may use this section to gain a quick overview or to select those proposals that best cover issues of particular concern.

Part II contains a summary of each reform proposal with ordering information. These summaries provide a context for the charts of Part I and the comparisons of Part III.

Part III sets the recommendations of all sixteen proposals side-by-side by topic, to let the reader judge inclusions and omissions, similarities and differences. A page reference to the source document is provided for each recommendation so that the reader may review it within its original context. This section can also serve as a quick reference to the separate reports for readers who are studying a particular issue.

Part IV contains abstracts of selected school improvement reports, research studies, and subject-specific recommendations supplemental to the sixteen main proposals. Here also is information on three other major reports: the first two have not yet been published; the third was unfortunately received too late for inclusion in the main body of this guide. They are:

- A Study of High Schools, Theodore R. Sizer and Arthur G. Powell. National Association of Secondary School Principals and National Association of Independent Schools.
- Redefining General Education in the American High School. Gordon Cawelti, Association for Supervision and Curriculum Development (ASCD).
- Educating Americans for the 21st Century. The National Science Board Commission on Precollege Education in Mathematics, Science and Technology.

Part V provides a complete listing of the reports cited in Parts II, III, and IV, plus a brief bibliography of useful background readings.

Ordering Information

The most complete available ordering information is provided with each citation in Parts II, IV and V with the exception of journal articles and ERIC microfiche documents. The former will be available in most local education libraries and the latter at any library or institution, including the SMERC Information Center, which houses the ERIC microfiche collection. Copies of ERIC microfiche are available from SMERC and we will assist you in obtaining copies of journal articles. Please call (415) 363-5450.

Abbreviations

In Parts I and III, mnemonic titles have been assigned for brevity.

ACSA	"ACSA's Recommendations on Standards." Association of California School Administrators.
ACTION	Action for Excellence. Education Commission of the States.
CA MODEL	Raising Expectations: Model Graduation Requirements: Approved Unanimously by the California State Board of Education on June 10, 1983.
CARNEGIE	High School: A Report on Secondary Education in America. The Carnegie Foundation for the Advancement of Teaching. Ernest L. Boyer.
ECONOMIC PROGRESS	Education and Economic Progress. Toward a National Education Policy: The Federal Role. Group of 50, The Carnegie Corporation.
EQUALITY	Academic Preparation for College: What Students Need to Know and Be Able to Do. The College Board Project EQuality.
FEOL	Educational Reform: A Response from Educational Leaders. Forum of Educational Organization Leaders.
GOODLAD	A Place Called School: Prospects for the Future. John I. Goodlad, A Study of Schooling.
MERIT PAY	Merit Pay Task Force Report. United States House of Representatives Committee on Education and Labor.
NASSP	"NASSP Develops Positions on National Reports on American Ed." National Association of Secondary School Principals.
PAIDEIA I	The Paideia Proposal. Mortimer Adler.
PAIDEIA II	Paideia Problems and Possibilities. Mortimer Adler.
RISK	A Nation at Risk. National Commission on Excellence in Education.
ROUNDTABLE	Improving Student Performance in California: Recommendations for the California Roundtable.
SB 813	Senate Bill 813, Chapter 498 of 1983: The Hughes-Hart Education Act of 1983. California State Legislature.
TWENTIETH	Making the Grade: Report of the Twentieth Century Fund Task Force on Federal Elementary and Secondary Education Policy.
UC	University of California Requirements for Freshman Admission (Effective 1986).

PART I

SYNTHESIS

The sixteen reform proposals reviewed in Parts II and III, plus some of those summarized in Part IV, speak to a common problem but not with a common voice. Listening to these voices is not unlike asking several people for advice on remodeling your home. Your advisers would see different reasons for the remodeling--resale value, present comfort, future life style changes, etc. Some advisers would focus on a particular area, such as the kitchen or the yard, while others would take a more comprehensive view. All would offer advice on improving the present structure, but some might add that your best bet is tear it down and start over. Out of this welter of advice you should hear some common recommendations about what to fix, if not complete agreement on how to fix it.

So it is with these educational reform proposals. They all seek improvement in America's public schools, particularly its high schools, but their perspectives on the problem and areas of interest differ. Some (CARNEGIE, GOODLAD, PAIDEIA) are the work of individual writers based on scholarship or in-depth field research; others come from state legislators (SB 813), business leaders (ROUNDTABLE), education associations (ACSA NASSP, FEOL, EQUALITY), state education agencies (CA MODEL, UC), university personnel, or commissions composed of all these groups.

These various authors generally recognize two basic goals of education: social (preparation of responsible citizens and productive workers to maintain the nation's economic power, national security, and democratic system) and individual (development of the educated person to live a rich, rewarding life). The proposals vary radically in emphasis between these two goals. Those interested in economic power and national security take a more urgent tone in addressing the current crisis in mathematics and science education. Those emphasizing personal development as a goal of education, including CARNEGIE, GOODLAD, AND PAIDEIA, tend to advocate a longer view and the restructuring of the schools themselves. Some of the proposals focus on a particular type of change. Obviously the National Commission on Merit Pay had a specific scope for its study. The University of California's admission requirements statement is not intended to match in length or breadth the recommendations from A Study of Schooling or the National Commission on Excellence in Education. SB 813 is not a proposal at all, it is a law. Yet, underneath the different perspectives, motives, choices of issues, and views of the possible, certain common threads appear.

- Present concern is heavily focused on the high school; the consensus seems to be that elementary education is doing fairly well.

- Change is to be accomplished at the state and local level. Although there are many recommendations for Federal initiatives and aid programs, there is no call for a national curriculum. The states and localities are to retain responsibility for governance, program

development, and financing while the Federal government maintains the roles it has developed in guarding civil rights, assisting the disadvantaged and handicapped, supporting educational research and information dissemination, and using financial incentives to promote national goals for the schools, in this case, quality education.

- Considerable concern is voiced that today's emphasis on educational quality not obliterate recent advances in equity. Over the last 25 years, efforts have concentrated on providing equal educational opportunity for minorities, women, and the handicapped. Present reformers urge that these groups not be pushed aside in the rush toward higher academic standards. All children need a more rigorous education if they are to be economically competitive and politically responsible in our rapidly changing, diverse technological society. The ideal of common learning for all students is several times expressed through proposals for a core curriculum.

- The findings of "effective schools" research can be seen in these proposals. They call for an orderly school environment; concentration on the basics (variously defined); firm discipline; high expectations for students; time-on-task; continuous diagnosis and assessment of learning; accountability of teachers; strong leadership by the principal; collegial staff relations; and a school climate emphasizing academic achievement, shared goals, and a sense of community.

- Partnerships are recommended. It is recognized that schools did not get into their present state alone nor can they get out of it without help. All of society has a stake in quality education, the proposal authors say. Government, colleges, businesses, parents, the community, and the media should work with the schools on goal setting, planning, financing, and long-term improvement. Many specific suggestions for collaboration are made, e.g., school-college articulation committees and business-sponsored rewards for outstanding teachers.

- It is generally agreed that the two major steps to take in improving the schools are to: (1) make the curriculum more rigorous; and (2) upgrade the teaching profession.

A More Rigorous Academic Curriculum. Recent test score declines, particularly the decline in higher order thinking skills apparent in students of all ability levels, are a major, if not the major, source of concern. In the schools' attempts to accommodate a more diverse student population and to meet society's widening educational demands (e.g., personal development, racial integration, and job training), the academic curriculum has suffered. Compared to other industrialized nations, American students spend less time in school and receive less intellectual challenge. The reform proposals seek to cure this intellectual malnutrition with improved instructional materials; added content; better teaching methods, including use of technology; and especially, more exposure to the academic subjects. Recommendations include: more required courses; a longer school day and year; more "time-on-task;" more homework; stricter student attendance policies; and earlier introduction of some subjects.

Definitions of academics--the "basics," if you will--all include English, mathematics, science, and the social studies. Several proposals would augment those requirements with a second language and computer literacy. Some would add the arts. Views on the number and content of elective courses are diverse, though all seem to agree that "non-academic" courses, too, must demand more of students. Opinion splits on vocational education. Some would maintain separate paths for job-bound and college-bound students. Other authors advocate a single-track curriculum that replaces specific job training courses, which they consider useless in our rapidly changing economy, with orientation for all students on the meaning of work and the development of general employability skills, such as communication, problem solving, and personal responsibility.

Some new content and emphases are suggested. There is strong concern for English language proficiency in speaking, listening, and critical appreciation, as well as in reading and writing. Calls for second language instruction and world civilization courses reflect a concern with global interdependence. Awareness of technology, its social impacts, and its ethics are considered crucial to citizens of an advanced society. Mathematics instruction is to go beyond arithmetic to focus on problem solving. Many specify algebra, geometry, probability and statistics in high school.

In all subjects, higher order skills and demonstrated student mastery are of top priority. Several proposals supplement or replace a listing of high school course requirements with outcome statements of student understanding and/or performance. For example, a student should not just take 3 or 4 years of English but should at the end of that time be able to speak before a group, write well, listen critically, read with a high level of comprehension, and form defensible conclusions, among other skills. Continuing diagnosis, testing, and remediation are usually suggested.

As one might expect of proposals for academic excellence, some special attention is paid to the gifted student. Development of specialized high schools in technology and the performing arts is most frequently recommended.

Upgrading the Teaching Profession. Quality teachers are seen as the key to quality education. Today's severe shortage of qualified mathematics and science teachers receives the greatest attention, but the future of the entire profession is of concern because present conditions--low pay and status, poor working conditions, inadequate preservice and inservice education--deter many bright young people from entering the field and too often drive good teachers out. Many suggest hiring part-time teachers from colleges or business to fill immediate shortages while new or practicing teachers are being trained or retrained.

Proposals to upgrade the current teaching force fall mainly into these areas: more staff development and incentives for improvement; better working conditions, which include more adequate resources, more planning time and firm discipline to control disruptive students; recognition and rewards for excellence in teaching; chances for advancement; and pay competitive with other professions. Reward, advancement, and pay come together in proposals for career ladders, mentor or master teachers, and

merit pay. Merit or differential pay plans are recognized as controversial but, with careful planning and safeguards, are seen by many as an important incentive for filling teacher shortage areas and encouraging better teacher performance. A longer working year is also suggested both to raise salaries and to provide teachers with time for planning and professional growth.

To attract high quality new teachers, most proposals recommend Federal, college, or corporately-funded scholarships or student loan forgiveness programs for high-achieving students. Those who discuss preservice teacher education usually recommend a strong liberal arts or academic major undergraduate program, higher admission requirements for teacher education, restructured coursework, and an internship with strong supervision, frequently by a master teacher.

Changes in teacher credentialing standards are also proposed: passage of basic skills and subject matter examinations; flexibility to recruit part-time teachers from outside the schools; and regular professional development experience for credential maintenance.

If they are to hire good teachers, reward the excellent, and encourage professional development, the schools need better, more objective teacher and administrator evaluation systems, several proposals say.

This only highlights the most common recommendations of the sixteen reform proposals. It will become apparent in subsequent sections that even when two or more proposals agree on what should be done, they may not agree on exactly how it should be accomplished. The key issues chart that follows compares the sixteen proposals on their coverage of selected reform issues. On the curriculum chart and in Part III, you will be able to consider their actual recommendations for change.

KEY ISSUES

		ACSA	ACTION	CA MODEL	CARNEGIE	ECONOMIC PROGRESS	EQUALITY	FEOL	GOODLAD	MERIT PAY	NASSP	PAIDEIA	RISK	ROUND-TABLE	SB 813	TWENTIETH	UC
GRADES	High School	X		X	X		X			X		X	X			X	
	K-12		X			X		X	X	X	X			X	X		
MAJOR ACTORS	Schools & Districts	X	X	X	X		X	X	X	X	X	X		X		X	
	States	X	X							X		X	X	X			
	Federal Government				X	X			X						X		
	Business & Industry												X				
SPECIAL CONCERNS	Math/Science "Crisis"		X			X		X				X	X	X	X		
	Equity & Excellence		X	X	X	X	X	X			X				X		
	Computers & Technology			X	X		X	X		X	X	X	X	X			
CURRICULUM	H.S. Requirements by Course Units	X		X	X			X		X		X		X		X	
	H.S. Requirements by Competencies	X	X	X			X	X			X	X					
	Core Curriculum			X	X				X		X						
	Testing	X	X		X			X				X	X	X			
	Remediation				X			X		X	X				X		
	Gifted		X		X						X		X				
	College Preparation	X					X	X		X		X				X	
TEACHER IMPROVEMENT	Recruitment		X		X			X		X		X	X	X	X	X	
	Pay		X		X			X		X	X		X	X	X	X	
	Recognition/Incentives		X		X	X		X		X				X	X		
	Career Ladders		X		X			X	X	X			X				
	Master Teachers							X	X				X		X	X	
	Preservice Education		X		X			X	X	X		X	X		X		
	Certification		X		X			X		X				X	X		
	Part-Time Teachers				X				X				X	X	X		
	Inservice Education		X		X	X			X	X		X		X	X	X	
	Evaluation		X					X					X		X		
INSTRUCTIONAL TIME	School Day & Year		X		X			X	X			X		X	X	X	
	Homework		X					X				X	X	X			
	Time on Task		X		X			X	X			X		X			
SCHOOL ADMINISTRATION & ORGANIZATION	Discipline & Attendance		X		X			X		X		X	X	X	X		
	Dropouts		X		X									X	X		
	Counseling				X		X								X		
	School Site Management		X		X				X		X	X					
	Principals		X		X				X	X	X	X	X		X		
SPECIAL PROGRAMS	Special Schools				X				X					X	X		
	Resource Centers				X				X					X	X		
PARTNERSHIPS	Colleges & Universities		X		X	X	X	X	X	X				X	X		
	Business & Industry		X		X	X	X	X	X					X			
	Community & Parents		X		X		X	X	X			X	X	X			

SPECIFIC HIGH SCHOOL COURSE REQUIREMENTS

1 = 1 year or 1 unit
1/2 = 1 semester or 1/2 unit

When distinct requirements are listed for Job-Bound and College-Bound students, the codes JB and CB are used.

See Also: Curriculum--High School, pp. 90-95.

	ACSA	CA MODEL	CARNEGIE	FEOL	GOODLAD	NASSP	RISK	SB 813	UC
ENGLISH	**3** **4CB**	**4**	**2 1/2** 1 writing 1/2 speech 1 literature	**4**	18% of program in lit. and language	**4**	**4**	**2**	**4CB** college prep. courses
SOCIAL STUDIES	**3**	**3** 1 World Civ. 1 US History 1 Civics/Econ.	**3 1/2** 1 US History 1 Western Civ. 1/2 Non-West.Civ 1 Civics	**2**	15% of program	**3**	**3**	**3** US History World Studies Civics	**1CB** US History/ Civics
MATHEMATICS	**2** **3–4CB**	**3** 1 Algebra I 1 Geometry 1 Other	**2**	**2** **3CB**	18% of program in math and science	**2JB** **3CB**	**3**	**2**	**3CB** Algebra I & II Geometry
SCIENCE	**2** **2–3CB**	**2** 1 Physical Sci. 1 Life Sci.	**2** 1 Physical Sci. 1 Biological Sci.	**2** **3CB**		**2JB** **3CB**	**3**	**2** Physical Sci. Biological Sci.	**1CB** Laboratory Sci.
COMPUTER LITERACY	within science or career studies	**1/2**	**1/2** Technology Course			**1/2**	**1/2**		
FOREIGN LANGUAGE	**2–4CB**	**2**	**2**	**2CB**	included in the language requirement under Eng.	**2CB**	**2CB**	**1** either foreign language or arts	**2CB** 2 in the same language
THE ARTS	**1**	**1**	**1/2**		15% of program				
CAREER or VOCATIONAL STUDIES	**1**		**1/2** seminar on work		15% of program				
PHYSICAL EDUCATION and HEALTH	**2** P. E.	**2** P. E.	**1/2** Health		10% of program			**2** P. E.	
OTHER SPECIFIED			1/2 Senior Independent Project 1 Community Service		10% of program in electives			District may specify	**4CB** College prep. electives in academics and/or arts

PART II

TEXT SUMMARIES

These individual summaries are intended to provide a context for the recommendations being compared in Part III.

The most complete available ordering information is given in the citation for each report. Ideally, every educator and parent would read every one of the sixteen original texts, but this is unrealistic considering the already-heavy burdens on their time. If these summaries serve to direct readers to those proposals of greatest interest and use in their work, this guide will have fulfilled its purpose.

EQUALITY

Academic Preparation for College: What Students Need to Know and Be Able to Do. New York: The College Board Project EQuality, 1983, 46pp. (Single copies: Office of Academic Affairs, The College Board, 888 Seventh Avenue, New York, NY 10106, Telephone (212) 582-6210; free. Multiple copies: College Board Publications, Department A35, Box 886, New York, NY 10101; packets of 20 @ $20, 20% discount on orders of 5 or more packets, prepaid)

Begun in 1980, the Educational EQuality project is a ten-year effort to strengthen academics in secondary education and to insure equal access to postsecondary education. The two capital letters in its name, "E" and "Q," symbolize its intertwined emphasis on equality and quality.

The premise of this project is that one of our greatest national achievements in education has been to open higher education to the majority of high school graduates, not just the elite. Yet students cannot fairly take advantage of this opportunity if they lack the necessary preparation. This report, therefore, seeks to outline the knowledge and skills necessary to every high school student who wishes to successfully pursue college study. It does not attempt to suggest what preparation is needed by job-bound high school graduates. "Discussions with leaders of business and industry confirm, however, that much of the learning described here also can be valuable to students going directly into the world of work. Moreover, although this learning is needed for college, it can engage and reward students in itself, over and above any other goal." (p.3)

The inquiry leading to this report began in 1980 through dialogs and surveys of high school and college educators on subject matter preparation. In a St. Louis symposium in May, 1981, the Basic Academic Competencies were drafted. Consultation and consensus-building on both subject matter and competencies continued into 1983.

The standards adopted and presented in this report are not prescriptive. They describe appropriate learning outcomes from high school but suggest no set course sequences. They represent informed consensus on basic preparation for higher education, not the requirements of individual colleges or universities, which may demand less, or more, of those seeking entrance.

As evidenced by its subtitle, the report distinguishes between what students "need to know" and "be able to do." Six Basic Academic Subjects are defined, representing the knowledge base a student must acquire in order to do college-level work. Also defined are six Basic Academic Competencies which are the general skills needed for all academic work. (Two additional competencies, Computers and Observing, are discussed separately for reasons given below.)

The Basic Academic Subjects and the Basic Academic Competencies are intertwined. The learning of one develops and reinforces the learning of the other in a "coherent, cumulative pattern." (p.3) What follows is a synopsis of the learning outcomes suggested for both subjects and competencies.

Basic Academic Competencies: reading, writing, speaking and listening, mathematics, reasoning, studying.

Reading
- o Comprehend and summarize main and subordinate ideas.
- o Recognize different purposes of writing and points of view; infer meaning.
- o Separate one's personal views from those of the author.
- o Vary reading speed and method to suit the task.
- o Use the features of a book.
- o Define unfamiliar words.

Writing
- o Conceive ideas on a topic.
- o Organize and develop ideas in coherent paragraphs.
- o Write correct Standard English.
- o Vary one's writing style to suit one's purpose and audience.
- o Improve one's writing through correction and revision.
- o Gather information from primary and secondary sources and prepare a research report in correct style.

Speaking and Listening
- o Exchange ideas critically and constructively.
- o Ask and answer questions concisely and coherently; follow verbal directions.
- o Identify and accurately report on main and subordinate ideas in a discussion.

- Prepare and present a speech before a group in clear Standard English; evaluate such presentations given by others.
- Vary one's speaking to suit the occasion.

Mathematics

- Compute, with reasonable accuracy, using natural numbers, fractions, decimals, and integers.
- Measure with traditional and metric units.
- Use the mathematics of integers, fractions, and decimals; ratios, proportions, and percentages; roots and powers; algebra; geometry.
- Estimate and approximate; judge the result.
- Formulate and solve a problem in mathematical terms.
- Choose an appropriate problem solving approach or tool, e.g., mental computation, calculator, computer.
- Apply elementary concepts of probability and statistics.

Reasoning

- Identify and formulate problems; propose and evaluate solutions.
- Use inductive and deductive reasoning; recognize fallacies.
- Draw conclusions from a variety of information sources; defend one's conclusions rationally.
- Distinguish fact from opinion.

Studying

- Set study goals, priorities, and schedules; establish surroundings and habits for individual and group work.
- Locate and use external resources.

- Master general and specialized vocabularies.
- Follow instructions; recall, comprehend, analyze, summarize, synthesize, and apply knowledge.
- Prepare for tests and other forms of assessment; participate in class work.
- Accept and profit from constructive criticism.

A seventh competency was reviewed by an ad hoc committee in March, 1983, to meet an emerging need. It is presented in a separate chapter.

Computer Competency

- Basic understanding of computer functioning and terminology.
- Basic use of computers and software for self-instruction, information retrieval, word processing, modeling, simulations, decision making and problem solving; experience in devising one's own programs for problem solving.
- Awareness of the role of computers in various academic disciplines, in work, and in daily life.
- Some understanding of the social and ethical issues arising from computer use.

Basic Academic Subjects. Successful college work in any field requires a level of mastery in English, the arts, mathematics, science, social studies, and foreign language. Students pursuing a major in one of these fields will naturally need a stronger preparation there.

English: Skill in language is intrinsic to all forms of study. These abilities, especially writing, should be developed in all subjects.

- o Ability to: read critically, analyze a literary text, understand a wide range of literature, be interested in written works, respond actively and imaginatively to literature.
- o Ability to: recognize the steps of the writing process, use writing to discover and clarify ideas, write for different purposes and audiences, use standard written English with skill and assurance.
- o Ability to: engage in and contribute to discussion with thought and clarity, present an opinion persuasively, recognize a speaker's intentions and techniques, take notes, question inconsistencies, separate fact from opinion.
- o Ability to: understand basic principles of the English language, e.g., grammatical systems, evolution of language, dialects.

The Arts provide a unique cultural record, an enhancement of life, a focus for subtle understandings, and a means of self-expression beyond language.

- o Understanding and appreciation of the uniqueness of each of the arts, the use of the arts by various cultures, different artistic periods and styles, social and intellectual influences on art.
- o Ability to express oneself through the tools and processes of one or more art forms.
- o More intensive preparation in one of these art forms: visual arts, theater, music, and dance, to include the abilities and understandings mentioned above, plus ability to analyze the structure of an art work and to evaluate it.

Mathematics is "an indispensible language of science and technology, as well as business and finance." (p.19) Its study is not only an intellectual challenge, but a path to a wide range of career choices.

- o Ability to use mathematic methods to solve real-life problems, including use of calculators and computers.
- o Familiarity with the nature and language of mathematics and the quantitative expression of ideas.
- o Familiarity with computer programming and the use of prepackaged software.
- o Ability to mentally estimate the reasonableness of computer or calculator results.
- o Ability to gather, interpret, and graph statistical data; use such statistical concepts as average, median, and mode; understand basic statistical reasoning and its misuse.
- o Skill in these areas of algebra: solving equations and inequalities, real number operations, simplifying algebraic expressions, permutations, combinations, simple counting problems, the binomial theorum.
- o Ability or knowledge in these areas of geometry: properties of two- and three-dimensional figures; symmetry, congruence, and similarity; the Pythagorean theorum; the drawing and use of geometrical figures.
- o Knowledge of relations, functions, and inverses.
- o Ability to graph and use linear and quadratic functions.

Those planning to major in mathematics, the sciences, or computers will need greater mathematics proficiency, i.e., ability to:

- Write computer programs to solve mathematical problems, including familiarity with computer program design.
- Understand simulation techniques and the elementary concepts of probability.
- Apply these areas of algebra: trigonometric, exponential, and logarithmic equations; operations with complex numbers; arithmetic and geometric series; proofs by mathematical induction; simple matrix operations.
- Understand the role of proofs and axiomatic structure in mathematics, analytic geometry in the plane, conic sections, vectors, use of polar coordinates; write proofs.
- Graph and understand various types of functions including polynomial, exponential, logarithmic, and circular functions.

Science promotes creativity, curiousity, objectivity, and healthy skepticism. It is important in many careers and has a vital impact on our society.

- In laboratory and field work, ability to: distinguish evidence from opinion, recognize the role of scientific observation and experimentation, recognize the steps of experimentation, gather information, prepare reports.
- Use mathematical skills in science, i.e., ability to: understand quantitatively at least one science, interpret tabular and graphic data, draw conclusions or inferences from data, apply mathematical relationships to scientific problems and use them to describe results, interpret quantitative data or results in non-mathematical language.
- Understand at some depth the fundamental, unifying concepts of the physical and life sciences, e.g., cell theory, evolution, atomic structure.
- Develop detailed knowledge in at least one field of science.

Social Studies provides knowledge necessary for all citizens. It will also prepare college entrants for understanding discoveries about human beings and it will serve as a context for the arts and sciences. Every student should have the following:

- Basic factual knowledge about social and cultural history and about the development of political and economic institutions.
- Familiarity with the basic methods of the social sciences and with the analysis of data, plus more detailed knowledge of one social science; awareness of how these methods can be applied to social problems.
- Awareness of major trends in the modern world.
- A grasp of historical trends and turning points, the relation of past to present, the concepts of change and historical cause and effect; basic ability at historical interpretation.
- Knowledge of the features of major modern societies and their historic roots; major trends, events, and chronologies in world history; current diplomacy and economics.

- Understanding of the development of the United States in a world context and as an interaction of diverse groups; knowledge of its major events, trends, institutions and values.

Foreign Language instruction fosters greater awareness and appreciation of cultural diversity in our nation and the world and greater insight into one's native language, and is an important tool for communication in all endeavors.

- All college entrants need basic skill in another language and culture, i.e., ability to maintain a simple conversation, be understood by a native speaker, understand simple speech, read and write short paragraphs, and deal with everyday situations in the target culture.
- Entrants wishing to pursue language study or a related field will need greater proficiency, i.e., ability to engage in personal conversation, follow a lecture or explanation, read with comprehension some literature and most general factual materials like newspapers, write several paragraphs, correctly handle routine social situations. In addition they will need some historical and current knowledge of the target society.
- Students of classical language need preparation in basic reading comprehension and knowledge of Greek or Roman culture. They should be able to read simplified texts and summarize their contents. Students planning advanced study in a classical language should be able to read, with fair fluency, authentic prose or poetry and to translate it into reasonably accurate English.

Achieving these outcomes at any school will require great effort and creativity. Teaching writing and the other Basic Academic Competencies in all subjects would be a step. Partnerships to strengthen elementary and junior high education will also be necessary. But more is needed than new curriculum. Counselors must help students relate learning to their future plans. The school environment and stated expectations must combine to challenge and encourage students to study and to take responsibility for their own learning.

School boards and communities must consider their curriculum and provide the financial and moral support quality education requires. While raising standards they must guard against the danger of limiting equal opportunity for disadvantaged or minority students. Standards must not be imposed without concern for how students can be assisted to meet them.

This applies as well to colleges and universities, who must not delete their special assistance programs before they are sure that adequate high school preparation is available to all students. Colleges should collaborate with secondary schools in educational improvement. This is a goal of the EQuality project, and it will expand its collaborations not only within but outside education.

The EQuality report concludes with an Appendix on another academic competency, Observing. Clear consensus has not yet been reached on its inclusion with the other six Basic Academic Competencies. The current description of Observing as an academic competency includes the ability to:

- o See, interpret, and record observations in nature, the social environment, the laboratory, and in art;
- o Use different levels of observing, recognize distinctive features, and relate observations to broader patterns;
- o Recognize, interpret, and use a variety of visual materials, e.g., cartoons, diagrams, models, symbols.

ACSA

"ACSA's Recommendations on Standards." Ed Cal, February 21, 1983, p.2.

On February 4, 1983, the Representative Assembly of the Association of California School Administrators adopted recommendations developed by The Task Force on High School Graduation Standards.

The recommendations begin by stating that improvement of high school standards must be viewed in concert with changes in the surrounding grade levels.

The Task Force believes that all students should receive a balanced curriculum whose content is integrated with these skills: "communication, computing, decision making, problem solving, critical thinking, study, interpersonal, salable, and aesthetic." However, mere specification of required years or course titles will not improve student performance. Uniform course competency statements must be developed, along with criterion referenced tests to gauge individual student mastery. The following proposed core programs are, therefore, intended to reflect competencies that are equivalent to the stated year requirements.

Basic Academic Core

"The Task Force recommends the following basic academic core for all students for graduation. This core should include competencies equivalent to:

-three years of English, to include instruction in: communication skills, reading, writing, speaking and listening

-three years of social studies to include instruction in U.S. history, U.S. government, economics, world cultures, and geography

-two years of math, to include instruction in: basic computation, problem-solving skills, and personal finance skills

-two years of science, to include instruction in: life, physical or computer or electronics

-one year of visual/performing arts which may include: music, art, dance, and drama

-one year of entry level occupational training, to include instruction in: computer literacy, survival skills, knowledge of the world of work, work ethic, job skills, and self-awareness, and

-two years of P.E., to include instruction in: health, first aid, nutrition, CPR, life sports, and family life.

The interdisciplinary teaching of the above requirements is encouraged in all areas. When these competencies are met, students have the option to progress into courses in the extended academic core and are not held to a specific number of years in the basic academic core."

Extended Academic Core

"All students who demonstrate ability and/or plan to pursue academic excellence, should be encouraged to take the following extended academic core:

-four years of English which may include: composition, literature, and vocabulary

-three years of social studies which may include: world history, American history, geography, economics, anthropology, psychology, political science, sociology and futures

-three to four years of math which may include: algebra 1, algebra 2, geometry, trigonometry, and calculus

-two to three years of science which may include: biology, chemistry, physics, zoology, physiology

-two to four years of foreign language which may include: Spanish, French, German, Latin, Italian, Mandarin, Russian."

The Task Force recognizes a number of implications involved in its competency based approach: reconciliation of district and state graduation requirements; equal educational opportunity; quality control and compliance; development of the necessary testing system; ability to provide adequate resources (financing, instructional materials, quality teachers); consensus on the purposes of high school and the meaning of the diploma; implications for dropouts and students who fail; impact on other grade levels and special programs; potential differential pay to attract certain teachers; and potential need to lengthen the school day.

ACTION

Action for Excellence: A Comprehensive Plan to Improve Our Nation's Schools. Denver CO: Education Commission of the States. Task Force on Education for Economic Growth, 1983, 51pp. (The Distribution Center, Education Commission of the States, 1860 Lincoln, Suite 300, Denver, CO 80295, Telephone (303) 830-3820; $5.00, prepaid)

This Task Force*, chaired by Governor James B. Hunt, Jr. of North Carolina, sees its plan as different from those of other national commissions in its tone of urgency, its emphasis on state and local action, its K-12 coverage, and its call for new alliances to make lasting improvements in the schools. The Task Force does not intend to disband following its report, rather it intends to provide advocacy for school improvement and to establish a clearinghouse for state and local efforts.

> It is the thesis of this report that our future success as a nation--our national defense, our social stability and well being and our national prosperity—will depend upon our ability to improve education and training for millions of individual citizens. We must begin to act nowc, change now, so that in the future our children will be able to meet the demands of a new era that is already upon us. (p.14)

That new era, begins the report, requires a broader definition of the basics. Functional reading, writing, and calculating fit children only for a dwindling number of dead-end jobs. Already, most factory and service jobs require "learning to learn" ability, while professional jobs call for even more sophisticated intellectual skills. We must mobilize the schools to teach these thinking skills if our economy is to prosper and all students given the chance to compete for upwardly mobile jobs. All citizens, not just parents and students, have a stake in school improvement, because there is a direct link between education and productivity.

That our schools are failing now is due to deficiencies in the system and blurred goals for education. Student achievement in higher order thinking skills is declining, especially among the most able. Deficits in mathematics and science education threaten our technological supremacy. The "teacher gap"--shortages in critical areas, low salaries, lack of promotion, reward, and continuing education--erodes the quality of the profession. Curriculum for all students needs renewal. American students spend far less time in school and have far less demanding studies than do students in other advanced nations. We have hardly begun to integrate instructional technology into our programs. More efficient school

---

*Membership: 13 state governors, 3 state legislators, 13 business leaders, 1 labor representative, 5 directors/presidents of national education or science associations, 6 educators.

management is needed, as is better communication by business of what skills it expects its employees to learn in school. The cost of low educational productivity can be seen in the remedial education efforts that colleges, businesses, and the military are being forced to undertake.

Our greatest deficiency, the report continues, and therefore our greatest need is for "clear, compelling and widely agreed-upon goals for improving educational performance." (p.31) It is in this light that an eight-step action plan is recommended.

Recommendations

Before the eight recommendations are quoted and their sub-points summarized, two general observations should be made. First, the Task Force places great emphasis on states and local school systems. Unless otherwise noted, these are the actors in the following recommendations. Second, the Task Force recognizes other purposes for education, but focuses on education for economic growth. The phrases "preparing citizens for jobs" or "education for jobs and growth" occur frequently; the words "vocational education" never do.

Action Recommendation #1: "Develop--and put into effect as promptly as possible--plans for improving education in the public schools from kindergarten through Grade 12." (pp.34-35)

- The report's chief recommendation is that every state governor, working with the legislature, schools, and business, develop an action plan to improve the state's schools. The plan should emphasize the economic importance of education, suggest uses of technology, and establish clear, measurable objectives and timelines.

- Each school district should have a similar plan.

- Each governor should appoint a state Task Force on Education for Economic Growth, to create awareness of the problem and to promote public and private sector initiatives and alliances.

Action Recommendation #2: "Create broader and more effective partnerships for improving education in the states and communities of the nation." (p.35)

- Business, labor, and the professions should help marshal the resources needed to pay for public education, communicate their expectations for student achievement, share management expertise with the schools, and encourage employee involvement.

- Businesses should establish partnerships with schools.

- Leaders in state government, elementary/secondary and higher education should establish partnerships of their own, for example, to provide regional programs for the gifted.

Action Recommendation #3: "Marshal the resources that are essential for improving the public schools." (p.36)

- First, make better, more productive use of existing resources.
- Realize the priority need for more resources to education, but selectively invest such resources in improvement efforts.
- Continue the Federal government's supportive funding of special needs students, equal educational opportunity, student financial aid, research and development, and critical labor needs.

Action Recommendation #4: "Express a new and higher regard for teachers and for the profession of teaching." (p.37)

- With teacher cooperation, "drastically" improve methods for recruiting, training, and paying teachers. Make teacher salaries professionally competitive. Use scholarships to attract outstanding people to teaching. Offer financial incentives for added responsibility or for teaching in key subject areas currently experiencing teacher shortages.
- Create a "career ladder" for teachers, with advancing levels of pay, responsibility, and status.
- Strengthen preservice and inservice teacher education with more rigorous coursework, including attention to educational technology.
- Create both public and private reward programs to honor teaching excellence.

Action Recommendation #5: "Make the academic experience more intense and more productive." (p.38)

- Establish "firm, explicit, and demanding requirements concerning discipline, attendance, homework, grades and the essentials of effective schooling . . .." Involve parents more.
- Make the entire K-12 curriculum richer in substance, more motivating, and more involving. Put greater emphasis on higher order skills.
- Increase both the duration and intensity of academic learning time by: introducing key academic courses earlier and more intensively; limiting class size; freeing teachers to teach; examining each grade, especially the twelfth, to eliminate wasted time; and using more effective instructional materials and methods, including technologies.
- Once the existing school day and year have been made fully productive, consider lengthening both and promoting additional business-sponsored learning time outside school hours.

Action Recommendation #6: "Provide quality assurance in education." (p.39)

- Establish fair and objective teacher evaluation systems.
- Stiffen state certification standards for educators but add flexibility to allow qualified outsiders (e.g., from business) to teach.
- After assistance for improvement and due process, dismiss incompetent teachers.
- Provide students with periodic diagnostic testing keyed to remediation and enrichment programs. End "social" promotion.
- Upgrade college entrance requirements.

Action Recommendation #7: "Improve leadership and management in the schools." (p.40)

- "Put the principal squarely in charge of maintaining the school's morale, discipline, and academic quality," including "sufficient discretion over personnel and fiscal planning . . .."
- Pay principals, like teachers, according to their responsibilities and performance. Reward outstanding performance.
- Set higher state standards for recruiting, training and evaluating school principals.
- Improve, with the help of business, school management techniques.

Action Recommendation #8: "Serve better those students who are now unserved or underserved." (pp.40-41)

- Increase participation of women and minorities in math and science.
- Identify the gifted early and provide them with a challenging curriculum.
- Start energetic community programs to reduce student absenteeism and solve the dropout problem. Provide troubled students with more motivating coursework and more flexibility.
- Improve identification of and service to handicapped children, including them in the goal of education for jobs.
- Strengthen programs for equitable distribution of educational resources to better reach underserved students.

The Task Force is optimistic that American education can improve, citing several promising efforts from around the nation.

Appendix: A

Basic Skills and Competencies for Productive Employment

This list was developed by business members of the Task Force, based on work done by The Center for Public Resources and the College Board's Project EQuality. What follows is a telegraphic version:

Reading Competencies

Ability to:
- o Comprehend and summarize ideas in a text.
- o Differentiate purposes and methods of writing, infer meaning.
- o Adjust reading speed to the task.
- o Use the parts of a book.
- o Define unfamiliar words.

Writing Competencies

Ability to:
- o Organize and present ideas in coherent paragraphs.
- o Write correct Standard English.
- o Re-write and correct one's work.
- o Gather information and use it properly in written reports.

Speaking and Listening Competencies

Ability to:
- o Exchange ideas critically and constructively.
- o Ask and answer questions; follow spoken directions.
- o Follow and paraphrase ideas in a discussion.
- o Organize and present a speech in Standard English.

Mathematical Competencies

Use of:
- o Arithmetic computation.
- o Metric and traditional measurement.
- o Estimation and approximation.
- o Integers, fractions and decimals, ratios, proportions and percentages, roots and powers, algebra and geometry.
- o Elementary probability and statistics.

Scientific Competencies

- o Understanding of basic mechanical, physical, and chemical principles.
- o Apply appropriate scientific/technical solutions to problems.

Reasoning Competencies

Ability to:

- Identify and formulate problems, evaluate solutions.
- Use inductive and deductive reasoning, identify fallacies.
- Draw and defend conclusions.
- Develop and use concepts and generalizations.
- Distinguish fact from opinion.

Basic Employment

Demonstrate:

- Responsible citizenship.
- Good interpersonal relationships.
- Punctuality and attendance.

Economic Competencies

Understand:

- Personal economics and its relation to work.
- Our basic economic system.

Computer Literacy

- Knowledgeably operate equipment that uses predefined procedures.
- Understand the basic functions of a computer.

ECONOMIC PROGRESS

Education and Economic Progress. Toward a National Education Policy: The Federal Role. New York: The Carnegie Corporation, 1983, 15pp. (The Carnegie Corporation, 437 Madison Avenue, New York, NY 10022, Telephone (212) 371-3200; free)

Fifty government, business, labor, foundation, science and educational leaders met on February 2, 1983 to discuss the educational implications of our scientifically- and technically-based economy. Conference participants concluded that economic needs are paramount today--the current challenge being more profound than Sputnik—and that sustained national leadership is needed for educational improvement. Not only do the sciences need attention but the social sciences and humanities as well, for the latter develop critical thinking skills and address the value questions raised by technological advancement. One speaker is quoted as saying, "Failure to attend to our educational system is the equivalent of unilateral disarmament." (p.3)

A conference working group, chaired by Governor James B. Hunt, Jr. of North Carolina and Dr. David Hamburg, President of the Carnegie Corporation of New York, prepared the following endorsed recommendations for national leadership and Federal legislation:

- Address both the improvement of mathematical and scientific literacy among the general population and the development of advanced skills, including foreign languages, among the most able.
- Include schools, colleges, and adult retraining in a comprehensive approach that trains both today's and tomorrow's workers.
- Encourage state and local initiatives. Require accountability.
- Support both existing and new programs. Disseminate evaluation results.
- Emphasize talent development among women and minorities, who will become increasingly important as the youth labor pool diminishes in size.
- Enlist top scientific minds for curriculum development and teacher training. Build lasting bridges between schools and colleges.
- Recognize the dignity and worth of teachers: involve them in change; improve their status; expand opportunities for professional growth.
- Provide incentives to leverage and encourage state, local, and private investment in education, e.g., matching funds, tax incentives, loans, targeted Federal aid. Federal agencies should also examine their own programs in order to coordinate and maximize school improvement funds.

- Build a sustained Federal role. A three to five year program is only a beginning. The 120-year-old Land Grant Act argues the merits of long-term involvement.

The report concludes by suggesting that government leaders should foster nationwide dialog on these issues and communicate the urgency of the situation.

FEOL

Educational Reform: A Response from Educational Leaders. Washington, DC: Forum of Educational Organization Leaders, 1983, 10pp. (Forum of Educational Organization Leaders, Attention: Dr. Harold Hodgkinson, 1001 Connecticut Ave., N.W. Suite 310, Washington, DC. 20036, Telephone: (202) 429-0114; free)

In late October, 1983, the Forum of Educational Organization Leaders* released this response to the recommendations of recent national commission reports on American education. Member organizations are in general agreement with its content.

The Forum statement begins with a preamble acknowledging the importance of raising academic standards to protect our economic position in the world, yet asserting that such efforts must not cause repeal of the gains in educational equity and civil rights made over the last twenty-five years. The Forum sees "no conflict between the goals of opportunity and excellence, and [urges] a continuation of the agenda of the 50's and 60's to make educational opportunities available to all children." (p.1)

The Forum supports the national reports in their focus on the teacher as the central figure in education. Teachers, therefore, are the subject of two of the Forum's five groups of positions and recommendations: (1) teacher role and compensation; (2) recruitment, retention, and removal of personnel; (3) tougher standards and curriculum review; (4) quality use of time; and (5) testing and evaluation.

Teacher Role and Compensation. Quality education requires quality teachers, who can only be attracted and retained through adequate salaries and an amenable working environment.

All teachers must receive a wage on which they can support their families. While merit pay is an attractive idea, it has failed in practice. New approaches in this area should be explored.

We already have a shortage of new math and science teachers. Shortages will grow, for many senior teachers are reaching retirement. New teachers need a substantial internship experience, with a moderate teaching load and special supervision from peers and administrators.

---

*The Forum is comprised of these 11 organizations: American Association of Colleges for Teacher Education, American Association of School Administrators, American Federation of Teachers, Council of Chief State School Officers, Education Commission of the States, National Association of Elementary School Principals, National Association of Secondary School Principals, National Association of State Boards of Education, National Congress of Parents and Teachers, National Education Association, National School Boards Association.

The Forum's specific recommendations in this area are:

- Substantially raise the base pay scale of all teachers.
- Establish a career ladder for beginning, experienced, and master teachers. Master teachers should possess advanced degrees, work a 12-month year, and team with universities to train new teachers.
- Use a variety of incentives to recruit and retain as teachers the top 25% of college graduates, e.g., year-round employment, rewards and recognition, forgiveness of student loans after five years of service.
- Guarantee a safe and orderly school environment through discipline codes and alternative arrangements for disruptive students.
- Provide salary incentives, "such as the reduction of steps on salary scales," (p.3) to retain experienced teachers.

Recruitment, Retention, and Removal of Personnel.

- All significant persons (parents, peers, school counselors, etc.) should encourage promising candidates to enter teaching. The Federal government can provide financial assistance.
- Teacher retention depends on pay, prestige, support, and respect for the teacher as a professional with decision making power and control of his or her own professional development.
- Unsatisfactory teachers should receive counseling and professional assistance. Dismissal should occur only with due process.

Tougher Standards and Curriculum Review. States and local school systems should formally prescribe graduation standards. The Forum supports these curriculum standards:

- All students in the United States should be able to speak, write, read, and listen to English. Every high school graduate should be able to write a clear expository paragraph, prepare a research paper, present logical arguments, and formulate conclusions.
- All students will need to master basic arithmetic, algebra, geometry, and mathematical problem solving as it applies to adult life. College-bound students will need advanced algebra, functions, calculus, statistics and probability.
- World history, U.S. history, and civics or citizenship should be taught at all grade levels.
- Beginning with natural science in the elementary grades, science courses, including biology, chemistry, and physics, should be available to all students. Educators should insure access by women and minorities to science education.
- Computers should be in the curriculum from the early grades. A student should know: how a computer works, how to enter data, how to solve a computer problem, how to write a simple program, how to review output, how to propose solutions to common data analysis and interpretation problems.
- These high school graduation requirements should be considered by states and localities:
    - 4 years of English
    - 2 years of mathematics
    - 2 years of science

2 years of history and social studies.

Second language instruction should be available to all. The fine arts and humanities must remain prominent. Practical arts, vocational instruction, and physical education (emphasizing fitness) should be retained.

- College-bound students should meet higher requirements:
  - 4 years of English
  - 3 years of mathematics
  - 3 years of science
  - 2 years of foreign language

  Colleges and universities, in consultation with the lower grades, should revise their admission standards.
- Schools should also enforce the following standards: a high level of student attendance as a graduation requirement; parent involvement and support in discipline, attendance, and completion of schoolwork; challenging and stimulating textbooks; appropriate student test performance; and student self-discipline, including willingness to follow directions, complete assignments, respect others, and obey the school behavior code.
- The schools must provide "vigorous" supplementary assistance so that higher standards do not lead to the de facto exclusion of some students.
- While secondary education is the present concern, strong programs of preschool and elementary education must be retained.

Quality Use of Time.

- Make better use of currently available school time.
- With due concern for student fatigue and the inappropriateness of simply providing "more of the same," explore options for extending learning time up to 220 days per year. Computer camps represent one current approach.
- Review the district's homework philosophy and practices. An hour a day for elementary students and two or more hours for high school students may promote greater learning, but these questions must be considered: (1) Will the school provide alternate sites for students whose homes are not suitable environments for study? (2) What other valuable learnings (e.g., community service, home projects, athletic or academic competitions) can be considered as homework, beyond the traditional textbook assignment? (3) How can teachers be provided with the time needed to review homework, through reduced class size or aide assistance?

Testing and Evaluation. Testing should provide diagnosis as well as achievement rating. Reporting school test data only in reading and mathematics is objectionable because it ignores other valuable school learnings. The Forum recommends that:

- Tests for promotion, graduation, or college admission should only be used in conjunction with other indicators of student performance, such as grades and teacher recommendations.

While every prospective teacher should pass tests of subject matter and competency and basic skills, performance in the classroom is the ultimate measure of teacher success. Therefore:

- Tests should be used in the process of screening new teachers but should not be the sole criterion for certification or employment.

The Forum concludes its statement by noting that not all of the reform reports are in, nor have all the issues they raised been addressed. It agrees that we must expect more of students and teachers. It proposes that each state debate the level of educational quality it wants and is willing to pay for and that, if we are to expand schooling, the Federal government share the cost.

CARNEGIE

High School: A Report on Secondary Education in America. The Carnegie Foundation for the Advancement of Teaching. Ernest L. Boyer, New York: Harper and Row, 1983, 363pp. (ISBN 0-06-015193-5; $15.00)

Beginning in Spring 1980, the Carnegie study searched for ways to strengthen the academic quality of the public schools while maintaining a strong commitment to equity. Over two years, its 28-member advisory panel of teachers, school and college administrators, school board members, parents, and citizens visited schools, reviewed the literature, and debated reform proposals. Fifteen diverse high schools were visited for twenty or more days each.

Except for an opening vignette of a day at one school and quotations scattered throughout the text, this report does not present much detail on the fifteen high schools in its field study. Rather, it focuses on its own agenda for action. Its supportive data is national in scope; for example, an historical review of high school development and reform (pp.41-57), an examination of trends in curricular offerings and student transcripts (pp.71-84), and state-by-state statistics on school holding power (pp.240-241) and teacher salaries (pp.167-170). Within chapters 6-17, the report makes almost 90 separate recommendations for reform. They are conveniently summarized in Chapter 18 (pp.301-319)*, but the text provides a richer rationale for the proposals, plus descriptions of illustrative school programs and practices.

Twelve key strategies for achieving high quality education are identified: clear goals; the mastery of language; a core curriculum; service as a graduation requirement; the transition to work and further learning; improved instruction; teacher renewal; instructional technology; leadership by the principal; flexibility in organizational patterns; connections with college and industry; and a public commitment to education.

Clear Goals. The education laws of all 50 states were reviewed. A "numbing hodgepodge of rules and regulations" and "vague and wide-ranging mandates" (p.58) were found. Local goal statements were often unknown or ignored. Asserting that high schools need a clear, coherent, and shared purpose, the report proposes these four essential goals to form the structure of the high school curriculum (pp.66-67):

---

*Also available as: "High School: An Agenda for Action." NASSP Newsleader, October 1983, pp.5-9.

First, the high school should help all students develop the capacity to think critically and communicate effectively through a mastery of language.

Second, the high school should help all students learn about themselves, the human heritage, and the interdependent world in which they live through a core curriculum based upon consequential human experiences common to all people.

Third, the high school should prepare all students for work and further education through a program of electives that develop individual aptitudes and interests.

Fourth, the high school should help all students fulfill their social and civic obligations through school and community service.

The Mastery of Language. In referring to mastery of language as the first priority, the report quite specifically means English. It calls for a developmental program throughout the elementary grades focusing on reading comprehension, clear and correct writing, speaking skills, and the ability to organize one's thoughts.

Continuous recordkeeping and assessment are vital. Before high school, every student should be tested in English proficiency (and mathematics). Students experiencing difficulties should receive special summer instruction and continuing assistance in high school.

The high school English program should further develop writing, reading, listening, speaking, and critical thinking skills. Writing and speaking should be taught across the curriculum as well as in special, required courses.

The Core Curriculum. Beyond language mastery, students will need a grounding in "cultural literacy" to live in our increasingly interdependent world. This curriculum is structured on shared human experience, our common use of symbols, and a global perspective. It is a series of required courses in these areas:

Literature: A one-year literature course should be required, focusing on "the power and beauty of the written word" and literature as a way to understand "life's deeper meanings." (p.96)

The Arts: They are not a frill; they are necessary to understanding nonverbal aspects of human communication and to helping us live together with "civility and joy." (p.98)

Foreign Language: Our interdependent world makes a second language essential. Instruction should begin in elementary school with two years required in high school.

History: This strengthens student awareness of a larger reality. United States history, Western Civilization, and the study of a non-Western civilization should be required, as should civics. These courses should cover important ideas, not repeating the basic chronologies learned in the elementary grades.

Science: A year each of biological and physical sciences should be required, emphasizing the scientific method and the structure and interdependence of the natural world.

Mathematics: Elementary school mathematics should deal with the fundamentals of arithmetic and with problem solving. The latter should be the focus of the required two-year mathematics sequence in high school.

Technology: Students should study the social impact of technology.

Health: Study of the human body and lifetime fitness is central to our well-being.

Work: All students need an introduction to the meaning of work and the connection between production and consumption.

In addition to these basic academic learnings, the report proposes two new requirements: the Senior Independent Project and Service.

The Senior Independent Project: This is one method suggested to foster the interdisciplinary coherence which is presently lacking in high school instruction. The Project would consist of a paper written on a contemporary issue, requiring the student to draw from his or her various fields of study.

Service: Discussed separately in Chapter 12, the service requirement is intended to add an element of personal responsibility to the high school program, to allow students to feel needed and valued. Over all four years, each student would complete enough hours of school or community volunteer work to fulfill the 120 hours of a Carnegie unit. The program should be run by the students themselves.

This chart of the common core curriculum appears on p.117 of the report. The numbers refer to Carnegie units or years of study:

Language, 5 units	
Basic English: Writing	1
Speech	1/2
Literature	1
Foreign Language	2
Arts	1/2
History, 2-1/2 units	
U. S. History	1
Western Civilization	1
Non-Western Studies	1/2
Civics, 1 unit	1

Science, 2 units	
Physical Science	1
Biological Science	1
Mathematics	2
Technology	1/2
Health	1/2
Seminar on Work	1/2
Senior Independent Project	1/2
Total	14-1/2

Adding to this the service unit, one reaches a total of 15-1/2 required units in the 4-year high school program, about two-thirds of the total required for graduation.

Transition to Work or Further Learning: No exact course sequences are specified above, but the general plan is that core courses dominate the freshman and sophomore years while roughly half of the junior and senior years will be open to electives that will help students personally prepare for further education, work, or both. These two years will serve as a "transition school."

This is not to say that the current system of academic and vocational tracks should be continued. Training for specific jobs in high school has proven unsuccessful; therefore, all students should pursue a single learning track. Electives, both advanced academic courses and more rigorous vocational offerings, should be carefully structured into substantial "clusters." Many schools will recognize that they lack the resources to provide a complete array of such clusters so they should explore new, cooperative options, such as networks of specialty schools, business and industry partnerships, or portable classrooms.

To help students choose effectively among the available options, school guidance programs must be greatly strengthened. No counselor should carry a caseload of more than 100 students. Referrals to community agencies should be provided.

At the end of high school, all students need assessment to assist them with their future plans. The SAT is inadequate to this purpose; therefore a new test, a Student Achievement and Advisement Test (SAAT), should be devised and used as part of a total assessment package that includes teacher evaluations, a portfolio of student work, and an interest inventory.

Improved Instruction. Present burdens of time, rules, required materials, and class size inhibit good teaching. Lecture and structured drill have their place in schooling but if we are to develop critical thinkers, we must also use discussion and Socratic questioning.

Teacher Renewal. Improving the conditions of teaching is the first step, both to renewing the teachers we have and to attracting top-quality candidates to the profession. Presently teaching suffers from a poor work

environment (too much paperwork, demeaning duties, isolation from adults, inadequate supplies, threats of violence), lack of recognition, and poor pay.

Improving the work environment entails: (1) redefining the teaching load (no more than 4 formal classes and one seminar period, at least 1 hour of preparation time per day, exemption from all hall or lunchroom monitoring duties); (2) making the atmosphere more congenial (pleasant meeting areas, adequate supplies, and photocopy machines that work); and (3) making it safer (firm administrative support for teachers, based on a clear, consistent discipline code; prompt removal of disruptive students from the classroom).

Recognition of good teaching should come from all segments of the community: districts, states, colleges, businesses, cities, newspapers. Each should develop a teacher recognition program, using such forms as honorary degrees, cash awards, and civic celebrations.

Teacher salary averages should, as a national goal, be "increased by at least 25 percent beyond the rate of inflation over the next three years, with immediate entry level increases." (p.168) Compensation should also be part of new continuing education schemes: a two-week Teacher Professional Development Term added on to the school year, a competitively-selected Summer Study Term available to each teacher every five years, and a Teacher Travel Fund.

In recruiting new teachers we must strive to attract top students. High schools should have "cadet" teacher programs to interest students in the profession. Colleges should offer scholarships, not disparagement, to bright students who express a desire to teach. The Federal government should establish a National Teacher Service to pay for the education of students from the top third of their high school classes who go on to teach for at least three years in the public schools.

A new, teacher education sequence is needed. The first two years of college should consist of a solid core curriculum. Admission to teacher education would occur after the sophomore year based on a B (3.0) grade average and faculty recommendations. The junior and senior years of college would be devoted primarily to the completion of an academic major and to classroom observation. The fifth year would include observation; classroom experience; and a course sequence covering schooling in America, learning theory and research, the teaching of writing, and the use of technology in instruction. Candidates would also attend a series of one-day Common Learning Seminars to hear outstanding scholar-teachers relate their fields to contemporary issues.

Credentialing would not be automatic. Prospective teachers would apply to a state Teacher Licensure Board, submitting recommendations from their professors and supervising teachers. A subject matter and English proficiency exam would be required.

To add financial and promotional incentive to teaching, a career ladder should be devised, consisting of associate, regular, and senior teacher. Movement up the ladder would require specific years of experience and performance assessment, including peer review.

Instructional Technology. Technology in the schools must be linked to educational objectives. Hands-on experience at a computer is not the first priority for all students. Since computer technology is becoming more "user-friendly," only those intending to pursue high-tech careers will need to study computers. But all students will need to learn about the impact of technology on their lives.

The next priority is to use computers as instructional tools—for drill, as a bibliographic retrieval or information tool, and as an aid for developing higher order thinking skills.

The quality of instructional software needs to be improved. The availability of good software should be a factor in every school's hardware purchases. Computer companies should set aside funds for instructional software development. The Secretary of Education should appoint a national commission to evaluate software.

Computer companies and the Federal government should provide funds for teacher training in computer use. The latter should also finance computerized school library networks and 10 regional Technology Resource Centers.

Technology does not stop at computers. Schools should make use of cable TV. Commercial TV networks should provide prime-time hours for educational programs. The Federal government should establish a National Film Library to collect quality public and commercial TV programs and to make them available to schools.

Leadership by the Principal. To provide better educational leadership, principals need better training and more autonomy. Their preservice training should follow that outlined for teachers through the two years of service as an associate teacher. At that time, the candidate could apply to an administrative credential program. On completion of that program, at least one year of internship under a successful principal and two years as an assistant principal would be required before the candidate would be eligible for a full principalship.

Continuing education could be accomplished by a network of corporately funded Academies for Principals.

Autonomy should come in the form of increased budgetary control at the school level. Each principal should also have a Discretionary School Improvement Fund for staff or program development. Principals, with staff consultation, should have the final selection of teachers for their schools. The central office should provide principals with a general framework for action and consultation on such matters as Federal mandates.

Outstanding principals, too, deserve special recognition and reward.

Flexibility in Organizational Patterns.

Time: ". . . lengthening the school year is not a top priority for school reform. The urgent need is not more time but better use of time." (p.232) The class schedule should be made more flexible, allowing longer time blocks for activities such as lab work, foreign language, and creative writing.

School size: Small high schools should expand their curricular offerings through new arrangements, such as part-time teachers from industry, off-campus sites, and mobile classrooms. Large high schools (perhaps 1500+ students) should regain the social advantages of small schools through a school-within-the-school plan.

Gifted students: They should be provided with adequate support and challenge through options like independent study, credit by examination, or the International Baccalaureate curriculum. Magnet schools in the arts and sciences should be established in large urban areas. Since science and mathematics are a national priority, the Federal government should support a network of Residential Academies in Science and Mathematics for the gifted.

High risk students: Dropout prevention should begin in the elementary grades through ESEA Title I funding adequate to reach all eligible students. Alternative high schools might be organized for some alienated young people. A close supportive relationship between individual students and teachers has been observed as important in this area and should be encouraged. Schools and community colleges should cooperatively develop programs to ease the reentry of dropouts.

Connections with College and Industry. Not only these institutions, but parents, community, and governments impact on the high school and must play a role in its improvement. The key to all these cooperative efforts is mutual respect and clear goals.

Shifting college admission standards profoundly affect high schools, although the latter have had no voice in such changes. Each state should establish a School College Coordination Panel to articulate school-college curriculum, reducing duplication and allowing college-bound students to gain a clear idea of what is expected of them.

Colleges should also cooperate with schools in easing transitions for accelerated students and in providing continuing education for public school teachers.

School and college faculties should break out of the traditional "pecking order" and establish real working relationships based on sharply focused goals and projects. Every college and university should establish such a partnership with one or more secondary schools.

Industry is already providing assistance to the schools through a wide variety of volunteer and "adopt-a-school" programs. Computer companies were mentioned previously.

Business can aid the schools in these basic ways: providing learning experiences and mentoring to both gifted and high-risk students; helping educators through training programs, awards, endowed chairs; providing students with connection to work through career days, apprenticeships, and part-time and summer jobs; and assisting in school management, specifically in the areas of upgrading school facilities and laboratory equipment.

A Public Commitment to Excellence. Public and government support are crucial.

Parents: Every school should have a Parent-Teacher-Student Advisory Council and a parent volunteer program.

School Boards: Boards of Education have a fundamental responsibility for insuring adequate and equitable financial support, hiring quality personnel, and providing a bridge between the schools and society. Parents and citizens should become more active in school board matters, including board membership.

State Governments: State education law must be revised to provide a clear, basic framework for schooling without overregulation. Model legislation has been prepared by the Education Commission of the States. The chief state school officer has a vital role to play in raising standards, moving Federal funds to the schools, and stimulating leadership.

The Federal Government: Several tasks have already been proposed. Its basic role is not to run the schools but to (1) collect and provide information about American education; (2) assist schools in providing for the handicapped and disadvantaged, and (3) providing funding in areas of emergency national need.

One emergency that exists today is the deterioration of school facilities and laboratory equipment. The Federal government should provide schools with short-term low-interest loans through a School Building and Equipment Fund.

The Public: Money alone will not make all of these recommendations succeed, but they all will cost. Every community should form a Citizens for Public Education coalition to spearhead local support for the schools and a national commitment to excellence in education.

ROUNDTABLE

Improving Student Performance in California: Recommendations for the California Roundtable. Berkeley, CA: Berman, Weiler, Associates, 1982, 87pp. (California Roundtable, 575 Market Street, Room 1942, P.O. Box 7643, San Francisco, CA 94119-7643, Telephone (415) 974-5721)

The California Roundtable, an organization of senior business executives, sponsored a six-month study to examine how well California students are being prepared for college and work, how secondary education can be improved, and what role business should play in that effort.

Analysis of California student achievement data, more fully reviewed in an appendix volume, indicates that Californians test lower than the national average on the 3Rs and, like students nationwide, show a decline in complex skills at all ability levels. While the study notes recent demographic and value changes that have burdened the schools, it concludes that ". . . the most immediate reasons for this decline are a general lowering of standards for quality education during the sixties and seventies and an erosion of the effectiveness of the teaching force." (p.5) The report recommends a variety of public and private sector initiatives and coalitions to improve secondary education in California. As the theme of this report is the role of business in educational improvement, the phrase "business should encourage and support. . ." should be understood to preface recommendations for government and school actions.

Recommendations fall in four general categories: raising educational standards, upgrading technical education, increasing community involvement, and reforming finance and strengthening the teaching profession.

Raising Educational Standards

Some of the current problems are: district standards vary widely, California's school day and year is shorter than elsewhere (averaging 304 minutes per day and 176 days per year versus national averages of 336 minutes and 179 days), there have been grade inflation and lower academic demands, the quality of instructional materials has declined, and nonacademic electives have been crowding out academic courses.

- Business should mount a public awareness campaign for improving educational standards, emphasizing the importance of education to the economy and the important role of parents and community in assessing school standards. (A sample list of assessment questions is provided.)

- Business should develop and communicate its expectations, both general and industry-specific, for the basic skills and competencies of entry-level employees. Companies should provide schools with feedback on

the performance of their graduates. Competency tests might be developed. These efforts would provide job-bound students the kind of guidance that college-bound students get from university admission standards.

- Adopt statewide minimum graduation standards to be used by all California school districts. Consider a phase-in approach to raising standards that allows districts time to gather or develop the needed resources. Provide state technical assistance.

- The State Department of Education should develop models of "community service" as a graduation requirement that districts might adopt.

- Strengthen the California Assessment Program through the addition of social studies and science tests, better assessment of complex skills, and expansion to all grades, 7-12. Study the feasibility of using these tests for diagnosis as well as assessment.

- Develop general state guidelines for curriculum quality and competencies in each academic subject. Require districts to revise their curriculum and instruction to meet these standards, supplying state technical assistance, if needed. Monitor local compliance.

- Extend the current K-8 state textbook adoption procedure to grades 9-12. Review materials for technical subjects every 3 years, others every 5 years. Communicate state specifications to publishers. Allow districts 2 years to phase in new materials.

- Strengthen state laws on suspension and expulsion, giving teachers and administrators more power. Increase penalties for truancy. Strengthen district and county attendance services. Mandate school-by-school attendance and dropout reports. Require action plans of schools whose dropout rate exceeds 10%.

- Raise statewide length of secondary school day to 300 minutes and to 360 minutes (6 period day) one year later if district resources permit. Raise school year to 180 full instructional days.

Upgrading Technical Education

High-tech jobs in California are expected to grow at twice the rate of general employment through the 1980s. California schools will have trouble providing sufficient technical personnel due to too few and poorly qualified math and science teachers, too few students in advanced secondary courses, and outdated curriculum and materials. The following recommendations are designed to ameliorate this "math/science crisis." (p.29)

- Business should advocate quality technical education as a top state priority.

- Develop a full-time state coordinating body to assess, plan for, and coordinate technical education.

- Develop a cooperative business/postsecondary program for high school curriculum development and teacher improvement. Program ideas might include corporately-funded scholarships for prospective teachers, businesses paying university personnel to teach in secondary schools, "crash" teacher education courses for business personnel entering part-time teaching, dual-career degree programs, coordinated use of business and college facilities for teacher inservice and advanced student coursework, business support for curriculum and diagnostic test development.

- Develop company programs to meet the immediate math/science emergency while state programs develop. Ideas include releasing technical employees to teach part-time (scheduling options are suggested), encouraging retirees to teach, developing part-time and summer employment options for teachers, donating equipment, and providing facilities for student use.

- Provide company and state programs to recruit and retain top math/science teachers. Provide public and private scholarships and loans to qualified students in return for at least 3 years of secondary math or science teaching. To keep prospective or practicing math/science teachers from leaving the field for financial reasons, develop dual-career options, e.g., job sharing, or permanent part-time employment. Fund corporate fellowships for outstanding math and science teachers to give them community recognition and additional money. Fellowship winners would be required to assist other teachers.

- Provide corporate funding for state and local programs to improve technical education: math/science high schools for the gifted, teacher institutes, teacher resource centers. Several options for math/science high schools are suggested. The danger of "skimming" needed resources and personnel from surrounding schools is noted. Institutes and resource centers would develop primarily with state support and postsecondary resources, but business should take a strong advocacy and support role.

- Create a state fund to provide higher pay for math/science teachers, based on an 11-month work year.

- Stiffen requirements for math/science teacher credentials, forbid districts to assign unqualified personnel using "waiver" credentials, and require periodic retraining for credential maintenance. Qualification for assignment would require a single subject math and/or science teaching credential, employment in the field to be taught, or passage of a state-approved subject matter test. The credential requirements for a secondary math or science teacher might be an academic major with an overall 3.0 grade point, a certain score on the subject area Graduate Record Examination, passage of a subject proficiency test such as the National Teacher Examination. Require math/science teachers to take one month of retraining every two years in order to maintain their credentials. These higher standards are designed to meet the current emergency for qualified math/science teachers and to serve as a model for other credentials.

Increasing Community Involvement

"These consequences of decreasing community support—isolation, reluctance to take controversial stands, demoralization—all contribute to a school climate that makes it difficult to improve student performance. . . . higher standards and other reforms are needed, but cannot be accomplished solely through laws and regulations. Public support and direct participation is a vital ingredient in these processes." (p.51)

- Business should conduct a public information campaign to rally support for education and suggest methods of parent and community involvement.

- Companies should facilitate employee involvement with the schools: offering released time to parent-employees for school volunteer work and lending management expertise to improve the efficiency of school operations.

- Establish a nonprofit corporation to encourage, link, and coordinate local business-education partnerships and community coalitions throughout the state.

Reforming Finance and Strengthening the Teaching Profession

California's expenditures for public schools have declined sharply since the mid-1970s; with most money coming from the state, districts have lost control over the budgeting process; some districts are penalized by outdated allocation formulas. The teaching profession is suffering. "Recent studies . . . suggest that the teaching profession in the seventies may have attracted a disproportionate number of persons of low academic achievement, and that these persons are also those most likely to stay in teaching." (p.60) First-hand reports indicate that poor working conditions and low pay are causing an unprecedented exodus from the profession. Many practicing educators could benefit from retraining.

Since refinance and teacher renewal are massive undertakings requiring much further discussion, this report suggests only first steps:

- Business should support increased school funding only if it is tied to financial reform and teacher improvement.

- Organize statewide discussions to develop a widely-supported program for school finance reform and the strengthening of the teaching profession.

The study report concludes with a list of panelists consulted and a selected, but extensive bibliography.

TWENTIETH

Making the Grade: Report of the Twentieth Century Fund Task Force on Federal Elementary and Secondary Education Policy. New York: Twentieth Century Fund, Inc., 1983, 174 pp. (The Twentieth Century Fund, 41 East 70th Street, New York, NY 10021, Telephone (212) 535-4441; ISBN: 0-87078-151-0; $6.00)

This 12-member task force* presents its recommendations on the proper role of the Federal government in promoting quality education within the context of state and local control.

They define these purposes for public education (pp.3-4):

> . . . schools across the nation must at a minimum provide the same core components to all students. These components are the basic skills of reading, writing, and calculating; technical capability in computers; training in science and foreign languages; and knowledge of civics . . ..
>
> As we see it, the public schools . . . must go further. We think that they should ensure the availability of large numbers of skilled and capable individuals without whom we cannot sustain a complex and competitive economy. They should foster understanding, discipline, and discernment, those qualities of mind and temperament that are the hallmarks of a civilized polity and that are essential for the maintenance of domestic tranquility in a polyethnic constitutional democracy. And they should impart . . . a desire to acquire knowledge, ranging from the principles of science to the accumulated wisdom and shared values that derive from the nation's rich and varied cultural heritage.

Better public schools are clearly in the national interest, so the Federal government has a role to play in school improvement. Recent Federal efforts have concentrated on equal access to education for the disadvantaged and handicapped. While these have been entirely appropriate in purpose, they have led to a slighting of the commitment to quality. It is now time to create a better balance between equity and quality in education.

It is incorrect to blame all current school difficulties on the Federal presence; however, the "mandate and regulate" approach has proven burdensome to the schools and is particularly inappropriate in the area of

---

*9 professors, 1 county schools superintendent, 1 former state schools superintendent, 1 college president

educational quality. First-rate education results from many complex human interactions best developed and nurtured at the local school level. It cannot be achieved through national mandates on curriculum, teacher qualifications, or length of school year. But the Federal legislature and executive do have a leadership role to play in (1) focusing national attention on educational quality and (2) providing incentives to local schools to improve in areas of identified national concern, specifically quality of teaching, and proficiency in English, foreign languages, mathematics and science.

Quality of Teaching. Teaching quality has suffered, most markedly in mathematics and science, through organizational structures which inhibit teacher autonomy and through collective bargaining which discourages excellence through the principle of equal pay for all.

To counteract these entrenched arrangements, the Federal government should make a major initiative to dramatize teaching excellence. It should establish a Master Teachers program with Federal monies.

Under this program, Federal agencies, such as the National Science Foundation, would establish criteria, canvas local groups, and select Master Teachers. At least one, preferably more, would be chosen from each congressional district.

Each Master Teacher would receive a ". . . a monetary grant—say $40,000 a year--above that of the ceiling for teachers' salaries for a period of five years." (p.9) The first year would be spent in further education, expenses paid; the next four in teaching and, perhaps, in assisting other teachers.

The cost of the program, possibly as much as $5 billion by the fifth year, is warranted. Its goal would be to make a national statement about teaching excellence, to keep our finest teachers in the classroom, and to pave the way for the reconsideration of merit pay schemes for all teachers.

Proficiency in English. A significant number of American children come from homes where English is not the dominant language. Because proficiency in English is necessary for full participation in our society, "the Task Force recommends that the federal government clearly state that the most important objective of elementary and secondary education in the United States is the development of literacy in the English language." (p.11) Proficiency should include not only reading, writing, speaking, and listening skills, first taught in the elementary grades, but by the time of high school graduation, higher cognitive skills, e.g., reasoning, ability to work with complex ideas, and critical analysis.

To ensure equal opportunity for the acquisition of English, ". . . federal funds now going to bilingual programs [should] be used to teach non-English-speaking children how to speak, read, and write English." (p.12)

Foreign Languages. From both an educational and a national interest perspective, it is important that every American student have access to second language instruction. Given the current poor state of this field, this will necessarily be a long-term goal, but the Federal government can begin by providing states and localities with a "modest matching grant program" for teacher training. This emphasis in no way detracts from the primacy of English.

Science and Mathematics. "The Task Force recommends that the federal government emphasize programs to develop basic scientific literacy among all citizens and to provide advanced training in sciences and mathematics for secondary students." (p.14) It suggests that Federal loans might be offered to outstanding prospective teachers in existing or anticipated shortage areas, with up to 10% of each loan forgiven for every year spent teaching, up to 5 years.

Along with these initiatives toward educational quality, the Task Force envisions three other roles for the Federal government: the maintenance of equal opportunity; educational research; and the provision of choice.

Maintenance of Equal Opportunity. Federal categorical programs for the poor, non-English-speaking and handicapped have met important needs that states and localities could not have seen to alone. This Federal assistance should be continued. However, the Task Force applauds congressional efforts to simplify regulatory restrictions and expounds the principle that "categorical programs required by the federal government should be paid for from the federal treasury." (p.15)

In addition, it recommends that "impact aid" be provided to districts with large numbers of immigrant children and that Federal attention and assistance be directed to depressed localities and to areas "already making strong efforts to improve their educational performance." (p.16)

Educational Research. The Task Force takes no stand on the continued existence of the Department of Education, but it does recommend that these Federal research and information functions be continued:

(1) Collection of factual information about American education. This should be mandatory.

(2) Collection of information about student, teacher, and school performance. The National Assessment of Educational Progress should be strengthened. Data from "routine tests" (e.g., standardized tests, state competency exams, college entrance examinations), should be collected, as should information on such matters as course content and teacher qualifications.

(3) Evaluation of Federally sponsored educational programs.

(4) Support of fundamental research into the learning process. Better controls are needed to assure that such research is "sound and comprehensive." (p.19)

Provision of Choice. The Task Force does not endorse tax credits, tuition voucher plans, or any major redefinition of the public/nonpublic school relationship. It does recognize, however, that some children are failing to learn in the present public school setting. For these children, not to exceed 5% of the public school enrollment, special Federal fellowships should be established to encourage districts to set up "small, individualized programs staffed by certified teachers and run as small-scale academies." (p.20)

The Task Force report comprises only 22 pages. An interesting feature is the inclusion of dissenting comments from Task Force members on specific recommendations. The rest of the volume consists of the background paper that formed the starting point for Task Force inquiry. Written by Paul E. Peterson, professor of political science and education at the University of Chicago, it examines the operations and impact of previous Federal education programs and the current state of American education, in order to define a more balanced Federal role.

MERIT PAY

Merit Pay Task Force Report. Washington, DC: United States House of Representatives Committee on Education and Labor, 1983, 9pp. (House Education and Labor Committee, Room 2181, Rayburn Office Building, Washington, DC 20515; free)

On June 17, 1983, following President Reagan's publicized advocacy of merit pay for teachers, Chairman of the House Committee on Education and Labor Carl D. Perkins appointed a 21-member Task Force* to study the issue.

Their report refuses to take a dim view of America's schools or the quality of all teachers, yet it acknowledges serious problems in the profession. Teachers have always received lower pay than other professionals, and in recent years the ratio of teacher salaries to total educational expenditures has fallen. Women and minority teachers, traditionally "a form of controlled, in-kind subsidy to public education" (p.4), now have opportunities in other professions. The academic scores of education majors have declined markedly. Teachers cannot be blamed for all the ills of the schools, yet "the key educational role played by teachers suggests that the most rapid improvement in education may be made by upgrading that profession." (p.4)

The Task Force distinguishes between merit pay and career ladder schemes as two forms of performance based pay. The former is a system of financial rewards for meeting or exceeding specified objectives. There is often no sustained salary increase, special title or recognition, or increased responsibilities. Career ladder systems differentiate levels of teachers, with salary increments. Promotion is based on years of experience and performance evaluations. A sample 4-step ladder is described ranging from Apprentice Teacher ($15,000) through Master Teacher ($35,000).

No single merit pay or career ladder plan will work for all. Several issues must be carefully considered: criteria on which merit will be judged; designation of the judges; teacher involvement in scheme development; appeals procedures; and impact on other classroom and school system problems.

---

*Membership included: 4 members of Congress, 2 teachers, 1 principal, 2 present and 1 former state schools superintendents, the District of Columbia Public Schools Superintendent, 1 state school boards association president, 1 state senator, 1 former governor, and the presidents or executive directors of these 7 organizations: The Carnegie Foundation for the Advancement of Teaching, The American Association of Colleges of Teacher Education, the National PTA, NEA, AFT, American Association of School Administrators, and the Council for American Private Education.

Because merit pay systems alone cannot upgrade the teaching profession or cure all educational problems, the Task Force's recommendations spread beyond that issue.

Recommendations

- The basic pay of teachers must be raised.

- Immediate attention must be given to raising the pay of starting teachers. State certification standards must also be raised to include, at least, passage of a subject matter examination.

- The Task Force supports and encourages experiments with performance-based pay. The Department of Education, perhaps through NIE, should evaluate existing experiments and disseminate information. Experiments should include these features:

  (a) Involve teachers, administrators, and the community in planning;

  (b) Avoid rewarding anything but outstanding teacher performance;

  (c) Provide teachers with periodic review and incentives for self-improvement;

  (d) Periodically evaluate and revise the scheme; and

  (e) Don't neglect "competent," as opposed to "superior," teachers.

- Colleges and universities should increase their institutional and financial support for teacher training. Programs should be made more rigorous and admission standards raised. More effective school-college partnerships should be created. The Federal government should assist in these last two efforts.

- At least 3% of the school district budget should be devoted to faculty development.

- The Federal government should expand the summer institutes and inservice training opportunities now part of the science-math-foreign language bills before Congress.

- School districts should institute sabbatical leaves.

- A Federal "teacher" scholarship program should be established for the brightest high school students, regardless of need. The student would be required to teach for 2 years in return for each year of scholarship assistance. Ten thousand such scholarships per year at $5,000 would cost $50 million, a "modest investment." (p.8)

- Federal fellowships should be awarded to talented teachers beginning in 1985. Teachers from each congressional district should be selected annually and awarded one year's salary and study leave, on condition that they return to the same school for at least 2 years.

- District evaluation of administrators, especially principals, should be improved.

- The work environment of teachers should be improved through experiments in organizational change, assisted by business and industry. These experiments might include revised supervisory practices or quality circles.

- Federal research agencies should fund research on objective teacher evaluation criteria and performance evaluation models.

- School discipline and violence must be addressed. Alternative settings should be provided for chronically disruptive students.

NASSP

"NASSP Develops Positions on National Reports on American Ed." NASSP News Leader, September 1983, pp.1, 3-4, 7-8.

The Board of Directors of the National Association of Secondary School Principals formulated these positions in August 1983.

Role of the Principal. The principal's chief responsibility is the quality of the instructional program. Educational improvement occurs at the individual school level. States and districts can assist by adopting decentralized, less bureaucratic management.

State Task Forces. Individual school administrators and state associations should encourage formation of state and local task forces to discuss the national reform reports and implement school improvements. Principals must exert leadership.

Teacher Compensation and Merit Pay. Since past merit pay schemes haven't worked, we must design new systems. The first priority for any teacher pay scheme is to make base salaries competitive with those of other professions. Any new incentive pay scheme should be flexible, voluntary, professionally administered, and acceptable to teachers, administrators, and the community, who understand that its objective is instructional improvement. It must have central office support, district-wide coordination, and clearly stated purposes and plans. Evaluation criteria should focus on outputs. The system should promote collegiality not competition among staff. Finally, the plan must be financially sound and institutionalized. Incentives must be regularly offered, of sufficient size to be motivating, attainable by the majority of staff, and not limited by quotas.

The Educational Program. The curriculum outlined by the National Commission on Excellence in Education (A Nation at Risk) is recommended for college-bound students. Job-bound students will suffice with two years each of math and science. They should also have opportunities for occupational and technical skill development. Remedial courses in the 3Rs should be required for students testing substantially below grade level.

To be useful, homework must be properly assigned and reviewed. College-bound students should expect 20-30 minutes of homework per academic subject; job-bound students about half that.

Schools and communities should publicize and award student excellence.

School Day and Year. A 6 hour instructional day, plus lunch and after school tutoring, is recommended. A longer day is too fatiguing. College-bound seniors should not be allowed a shorter day. Teachers should work about 7-1/2 hours per day, using time before and after school to assist students and advise activities and clubs.

The student school year should be 180-185 days, without intrusions from lengthy testing or college orientation programs. Teachers should be paid for 195-200 days, the extra days going for planning and/or professional development.

Better, more efficient, use of instructional time is important.

Technology. Principals should be alert to the new technologies that can assist in instruction and school management.

All of these recommendations are made as a call for leadership to move the schools into the new information age.

RISK

A Nation at Risk: The Imperative for Educational Reform. An Open Letter to the American People. A Report to the Nation and the Secretary of Education. David P. Gardner and others, Washington, DC: National Commission on Excellence in Education, 1983, 73pp. (Superintendent of Documents, Government Printing Office, Washington, DC 20402; Stock No. 065-000-00177-2; $4.50 or ERIC document: ED 226 006; 1 microfiche)*

Appointed in 1981 by Secretary Bell, the 18-member National Commission on Excellence in Education held public hearings, commissioned papers, examined promising programs, and sought national input on the quality of America's public and private schools and colleges, their standing against the schools of other advanced nations, and the factors which influence student achievement, particularly at the secondary level. Commission members included 4 college and university presidents, 2 college professors, 4 state or local board members or superintendents, 2 high school principals, and 1 high school teacher.

Their report begins with the widely quoted statement, "If an unfriendly foreign power had attempted to impose on America the mediocre educational performance that exists today, we might well have viewed it as an act of war." (p.5) Their concern is that America will be outstripped by foreign competition and its own citizens disenfranchised by mediocre education. They call for excellence from the learner, the school, and society and envision a Learning Society in which education continues throughout life.

The Commission's findings and recommendations center on the high school and cover five general areas: curriculum content; standards and expectations; time; teaching; and leadership and fiscal support.

Content

They recommend a more rigorous high school course of study founded on the "New Basics." Specifically, a diploma from a 4-year high school should require:

(1) 4 years of English (ability to comprehend, evaluate, and use what is read; write well-organized, effective papers; listen and discuss ideas intelligently; and know our literary heritage);

(2) 3 years of mathematics (ability to understand geometric and algebraic concepts, as well as elementary probability and statistics; apply mathematics in everyday life; estimate, approximate, measure, and test the accuracy of calculations);

---

*The basic text is also available in "A Nation at Risk: The Imperative for Educational Reform." American Education, June 1983, pp.2-3, 5-21.

(3) 3 years of science (an introduction to the concepts, laws, and processes of the physical and biological sciences; the methods of scientific inquiry and reasoning; the applications of science to everyday life; and the social and environmental implications of scientific and technological development);

(4) 3 years of social studies (to enable students to fix themselves within the larger social and cultural structure; understand ancient and contemporary ideas that have shaped our world; understand the fundamentals of our political and economic systems; and grasp the difference between free and repressive societies);

(5) 1/2 year of computer science (to understand the capabilities of computers and the world of technologies and to use the computer for study, work, and personal purposes).

In addition, 2 years of a foreign language, building on 2-4 years elementary instruction, are strongly recommended for college-bound students. The high school should also provide personal, occupational, and arts courses, with standards as rigorous as those of the New Basics.

In its only specific discussion of grades K-8, the Commission recommends a sound foundation in the Basics, foreign language and the arts, and the fostering of personal talents and enthusiasm for learning.

The Commission encourages curricular development projects by educational associations and professional societies.

Standards and Expectations

The Commission recommends more rigorous and measurable standards; a raising of college admission requirements; and a nationwide (but not Federal) system of standardized achievement tests to certify student credentials and diagnose learning needs, particularly at the end of high school.

It also calls for instructional materials with more current and rigorous content, written by scholars and master teachers in cooperation with publishers. Publishers should be required to furnish evaluation data on their materials. Funds should be set aside for the development of materials in "thin-market" areas, e.g., for the gifted and learning disabled.

Time

Homework should be increased greatly and effective study skills taught.

Strong consideration should be given to a 7-hour school day and a 200- or 220-day school year.

53

Time for learning should be expanded by better classroom management; by relieving teachers of administrative burdens and interruptions; and by discipline codes, attendance policies, and alternative arrangements for disruptive students.

Additional time should be made available for students with special needs.

Student grouping and promotion should be based on achievement and instructional needs, not just age.

Teaching

Seven distinct recommendations are made to improve the quality and status of the teaching profession.

(1) Those preparing to teach should meet high standards. Schools of education should be judged on the quality of their graduates.

(2) Teacher salaries should be made professionally competitive, market-sensitive, and performance-based. Salary and tenure decisions should be based on an effective evaluation system, including peer review.

(3) Teachers should be on an 11-month contract to provide more time and more adequate compensation.

(4) Career ladders should be developed to distinguish among beginning, experienced, and master teachers.

(5) Non-teaching personnel (e.g., recent graduates or retired professionals) should be recruited to meet the immediate shortage of math and science teachers. Other shortage areas, such as English, should also be addressed.

(6) Incentives should be used to attract top students to the teaching profession, especially in shortage areas.

(7) Master teachers should be involved in designing teacher education programs and supervising probationary teachers.

Leadership and Fiscal Support

Principals and superintendents should develop their leadership, as opposed to management, role to gain support and set goals for reform.

States and localities have the prime responsibility for school governance and finance. The Federal Government can assist them by helping to meet the needs of special groups; protecting civil rights; gathering educational information; supporting curriculum improvement, research, and teacher training; and providing student financial aid--all with a "minimum of administrative burden and intrusiveness." (p.33)

The Commission's report ends with an address to parents and students, urging the former to encourage, monitor, and model learning for their children and the latter to take responsibility for their own learning and to set high expectations for themselves.

PAIDEIA

The Paideia Proposal: An Educational Manifesto. Mortimer J. Adler, New York: Macmillan Publishing Company, Inc., 1982, 84 pp. (ISBN 0-02-500240-6; $6.95)

Paideia Problems and Possibilities. Mortimer J. Adler, New York: Macmillan Publishing Company, Inc., 1983, 113 pp. (ISBN 0-02-500220-1; $7.95)

The Paideia Proposal, written by Mortimer Adler on behalf of the Paideia Group of 23 educators and scholars, takes as its basic premise that all children are educable in the deepest sense of the word: to earn a living, to participate knowledgeably as citizens, and to reach their fullest human potential in mental, moral, and spiritual growth. To shunt some children aside as merely trainable for a job is discriminatory. A democratic society must provide not only an equal quantity of basic schooling for all, but an equal quality.

The goal of basic, compulsory schooling (Grades 1-12) is to start the young on the lifelong process of becoming educated persons, to provide them with the motivations and habits that will carry them on no matter what they choose to do after Grade 12. Therefore, the same general, liberal, non-specialized, non-vocational curriculum should be presented to all. Except for the choice of which second language to learn, there should be no options or electives. Basic career awareness should be covered in Grades 11 and 12, but all specialized job training should be turned over to colleges, technical institutes, and employers. Other than 12 years of physical education and several years of manual/homemaking arts, all electives should be eliminated or moved to the extracurricular program, leaving the school day free for the accomplishment of the basic Paideia curriculum framework.

The framework, usually viewed in a three-column chart, consists of three types of learning or ways of improving the mind: knowledge; skills; and understanding, each with its own modes of instruction and classroom arrangements. All three are to be integrated and taught systematically through all twelve years of schooling.

Acquisition of organized knowledge covers content learning in three basic fields: (1) language, literature, and the fine arts; (2) mathematics and natural science; and (3) history, geography, and social studies. An educated person must be well acquainted with all these fields. Instruction will be didactic: lecture, textbooks, and recitation. This is currently the major, almost the only, form of learning offered by our schools.

Development of intellectual skills--Skills of learning. To continue learning throughout life, students must acquire and practice the skills of reading, writing, speaking, listening, calculating, problem solving, observing, measuring, estimating and exercising critical judgment. To develop such skills requires observation of a skilled practitioner,

drill, and supervised practice, very much on the model of players instructed by an athletic coach. Therefore, "coaching" is a general name for the type of teaching that intellectual skill development requires.

Enlarged understanding of ideas and values comes from the examination and discussion of works of lasting value (books and art) as well as artistic participation. This form of learning "stimulates the imagination and intellect by awakening the creative and inquisitive powers." (p.29) The principal setting suggested is the seminar where the teacher functions as the leader of a Socratic dialog. This form of teaching is presently almost nonexistent in our schools.

The curriculum is intentionally rigorous, based on the premise that children are eager to learn and be challenged, that there is joy in hard intellectual work, and that most of the ills of youth, including boredom, drugs, and violence are attributable to lack of intellectual stimulation and low expectations.

The Paideia curriculum bases its sameness for all students on their common humanity, their common civil rights, and their common right to the pursuit of happiness. It does, however, attempt to address individual and cultural differences in three ways: (1) the curriculum itself is only a framework; its actual content and sequences are to be designed by schools and districts on the basis of local needs; (2) deficiencies in nurturing or background are to be addressed through preschool tutoring; and (3) the curriculum itself is to be administered "sensitively and flexibly." Progression is not lock-step. Students who are falling behind must be given the extra time and instruction needed for mastery.

The role of the teacher broadens and changes substantially under this proposal. When the learner is viewed as the active agent, the teacher changes from "memory-stuffer" to "aid in the process of discovery." Present teachers are trained only in didactic instruction; they will also need to learn "coaching" and Socratic methods. Every teacher should be a good learner and demonstrate an interest in learning while teaching. Teachers should be liberally educated in college. Specific teacher training should occur only in graduate school and/or supervised practice teaching.

The principal must be the leader of the learning community—the headmaster, the principal educator. To be effective, he or she must have the authority, under due process, to (1) hire, fire, assign and promote teachers, and (2) enforce discipline, since decorum is essential to the learning environment.

Social change is also required if this proposal is to succeed. Students cannot be expected to strive if they face certain unemployment. Society must be committed to full employment. Parents must understand that education is meant to provide more than financial advantage; it should foster the living of a good life. They need to support the work of the school, especially relating to homework, and the authority of the principal and teachers in maintaining good behavior.

Paideia Problems and Possibilities was prepared to address initial responses to the Paideia Proposal, not by rearguing the case with critics who reject the Proposal's basic premises, but to consider concerns voiced by those who favor it.

Much of the volume consists of answers to specific questions raised about the Proposal's principles and implementation. Some of these answers are provisionary, since many concrete issues (including subject guidelines and standards) are to be addressed in the upcoming Paideia Program, a series of essays by the Paideia Group members, due for publication in 1984.

In reviewing the basic principles of the Proposal, Adler stresses that it is a framework only, meant to provide a structure for local curriculum development. He also expands on the necessity of such a curriculum in our present society. Democracy, technology, even national defense require a knowledgeable, flexible, thinking citizenry. Change is so rapid that preparing anyone for a specific job is a waste of time. The emphasis of schooling must be on how to think and how to learn.

Adler addresses many issues, including:

Grouping for Instruction. Both age and achievement grouping should be applied as appropriate. Age grouping will be useful for physical education, manual arts courses, and seminar discussions, but when success in mastery or task completion is crucial, as in mathematics and science learning, achievement grouping should be used.

Auxiliary Courses. He suggests 6-8 years for manual/household arts and 4-6 years of second language instruction. Both should be used to develop intellectual skills.

Special Education Classes. Special classes should be retained for those with learning disabilities to provide them with assistance in meeting the general curriculum. But special classes for the gifted should be abolished. The Paideia curriculum can well accommodate and challenge most gifted students.

Graduation Requirements. These will be much higher than present standards, for they will cover the knowledge, skills, and understandings of the Paideia curriculum framework. For example, a student should be able to defend an opinion, show facility in English and a second language, know mathematics through calculus and science through physics, be able to listen critically and sort out issues. Essay tests, oral exams and other forms of evaluation will have to be designed to measure these learnings.

Facility and Scheduling Changes. The traditional fixed daily schedule and "rows of desks" classroom arrangement are designed for didactic instruction. They would kill the two other instructional modes: coaching and Socratic discussion. Didactic instruction can take place in lecture halls or auditoriums with 35 or more students. Videotaped or closed circuit lecturing may be used. Coaching requires a student/teacher ratio of no more than 10 to 1, preferably 6 to 1, in a facility where the teacher

can circulate among the students as a coach does in a gymnasium. Seminars should be held around a hollow square table with 15 to 25 students, and one or two discussion leaders.

Cost. It is not possible to say what the Paideia Proposal will cost, but the savings realized by eliminating non-essentials from the curriculum should outweigh the plan's expense.

Staff Development. Ultimately and ideally every teacher will be proficient at all three forms of instruction: lecture, coaching, and the Socratic method. Practicing teachers, trained only in didactic instruction, should be given the time and training needed to try the other two, if they don't already use them as part of their professional style.

The Appendixes to this work contain reports by members of the Paideia Group on implementation efforts.

Ruth B. Love, Superintendent of the Chicago City Schools, offers three implementation plans for a pilot program, two involving immersion of an entire K-6 or K-8 school, another a school-within-a-school model using selected grades.

She suggests that, at the very least, implementation can begin with the introduction of Socratic teaching and seminars. Coaching may be introduced into didactic courses on alternate days.

Ongoing staff training is essential. Teachers may be given a certificate of accomplishment after retraining, which would eventually be required for teaching in a Paideia school.

She provides a sample 8-hour student schedule, with the last hour of the day set aside for tutoring, if needed. She suggests that 60% of instructional time be devoted to the acquisition of knowledge and 40% to coaching and seminar discussion. In the self-contained elementary classroom, the teacher can fairly easily design a weekly schedule integrating all three teaching modes. In the upper grades, where departmentalization may make integration more difficult, she calls for a ratio of 60% didactic instruction, 30% skill coaching, and 10% seminar discussion.

Alonzo Crim and Elizabeth Feely outline the implementation of the Paideia Plan in Atlanta, Georgia, schools begun in Spring, 1982. Booker T. Washington High School is the main pilot site.

In Atlanta's Area III all principals and resource teachers were required to read The Paideia Proposal. Principals were then given the choice to join the program and identify a cadre of teachers. Under foundation grants, Mortimer Adler and the National Humanities Faculty provide teacher training in the Socratic method. Athletic coaches and musicians will demonstrate the "coaching" mode.

Beginning in the Kindergarten, teachers will read quality literature daily to their students. As soon as children learn to read, required reading lists will be put to use. Daily homework will be assigned. Writing will be emphasized. Volunteers will be recruited to supply tutoring.

Nicholas Caputi, principal of Skyline High School in Oakland, California, implemented the Paideia Plan in Spring, 1981. Three teachers turned the traditional English IV and American Government courses, with addition of arts content, into a two-hour daily "Block Program," offering 4 hours per week of lecture, 2 of coaching, and 4 of seminar discussion, with variations. Students are evaluated on oral and written presentations.

In the next five years, the program will be expanded to other grades and departments at Skyline and to its feeder schools.

Theodore Sizer offers four steps in planning a Paideia school.

1) Make sure all individuals involved understand the plan and are committed to it. The process will take time and patience.

2) Focus on outcomes. What knowledges, skills and understandings must students demonstrate, and at what grades? When these tentative "checkpoints" have been established throughout the grades, prepare examinations. Then have those involved restructure the curriculum to meet these expectations.

3) Be aware that habits die hard. Students are used to being lectured at for 55 minute periods. Teachers have their own assumptions about course content and methods. Changing these assumptions may take time.

4) Continue planning and track progress as you go. It might be easier to start with one age group or with a single school.

GOODLAD

A Place Called School: Prospects for the Future. John I. Goodlad, New York: McGraw-Hill Book Company, 1983, 396pp. (ISBN 0-07-023626-7; $18.95)

Goodlad reports findings from A Study of Schooling, focusing on how schools measure up against stated goals for education, how existing schools might be improved, and how we might go beyond the schools we have now.

The basic premise of A Study of Schooling is that school improvement cannot occur without detailed knowledge of how schools work and how those involved feel. Achievement test scores or isolated studies of teaching cannot provide the depth and breadth of information needed for change, nor often the "necessary discomfort" with present conditions that supports change. Therefore, the Study sought to make "thick" descriptions of a rather small sample of schools, chosen for maximum diversity, to provide an information base about American schools, to suggest an agenda for change, and to highlight the types of data an individual school will need to collect about itself to begin the improvement process.

In 13 different communities around the nation, a high school and two of its feeder schools, elementary and junior high, were selected. Due to one combination junior-senior high, the 13 "triples" actually comprised 38 schools, spanning rural, urban, and suburban communities of varied social class and ethnic mix. Twenty trained data collectors spent a month at each "triple," collecting responses in total from 8,624 parents, 1,350 teachers and 17,163 students. They observed over 1,000 classrooms and analyzed materials provided by teachers. Findings cover teaching methods; time use; curriculum content and balance; provisions for individual differences; the "ambience" of the school and classroom; parent, student, and teacher satisfaction; and the match between practice and the stated goals of schooling.

Highlights of these findings may be summarized under some of Goodlad's key concepts: goals of schooling, "frontal" teaching, curriculum balance, access to knowledge, ambience/satisfaction, and the individual school as the unit for change.

Goals of Schooling. The Study collected goal statements from its 13 sample districts and from all 50 state departments of education. Although Goodlad found the latter to be regrettably timid and fuzzy, they correlated in the main to the preferred goals of parents, teachers, and students in the Study sample. Academic/intellectual goals receive prime emphasis, but Americans don't want the schools to neglect vocational; social, civic, cultural; or personal goals in education. In Chapter 2, Goodlad presents a composite goal statement as a guide for individual schools. It includes mastery of basic skills, critical thinking, salable skills, historical perspective, aesthetic appreciation, moral integrity, self awareness and much, much more. Chapter 2 is aptly titled: "We Want It All."

The Study then analyzed what its schools are teaching and how, in light of these goals. Among its chief findings were:

Frontal Teaching. American classrooms, at all grade levels, are overwhelmingly alike. They consist of a room--a "box"--full of students sitting in rows, facing a teacher. The teacher outtalks the entire class by a ratio of three to one, spending most of his/her time lecturing or monitoring students working individually in their seats. Rote learning is emphasized by the questions teachers ask and by their paper-and-pencil tests. Student passivity, individual performance, and teacher control are emphasized; student participation, cooperation, and peer learning are not. Affect is flat; little positive or negative emotion is shown. It is true that more variety in teaching methods occurs in the elementary grades and more "hands-on" learning in arts, vocational, and physical education classes, but even these variations do not significantly impact the overall preponderance of "frontal" teaching, which increases in the higher grades.

Yet student surveys show that they like active, participatory learning; research supports the use of varied teaching styles; and teachers themselves say they want to develop their students' higher order thinking skills. Why do our classrooms function with passive students, a single teaching style, and rote learning? Goodlad is sympathetic to the problems a teacher faces in the traditional classroom, trying to deal with many young children or uninspired teenagers. Strong control and flat affect is a way for the teacher to keep things moving. The age-grade structure and subject divisions in use encourage short-term, fact-based learning over intellectual growth. Facts are not linked to concepts; subjects are not presented as ways of knowing.

Nor is there much motivation for teachers to behave differently. Conventional wisdom says that this is the way classes should be taught. "Back to Basics" advocates and even some of the "Time on Task" literature support frontal teaching. Current teacher preparation programs are taught that way. They may give the prospective teacher an idea of other options, but they don't have the duration or power to help that teacher go beyond the conventional practice reinforced by student teaching. Although they want to teach higher order thinking skills, most teachers probably don't know how, because their own teachers didn't.

This is one of the two great "hypocrisies" Goodlad finds in our schools: the stated desire to foster originality, creativity, and flexibility versus actual practice which does not. The other hypocrisy lies in differential access to knowledge.

Access to Knowledge. Over the entire study sample, the curriculum is fairly well balanced, but there is wide variation between individual schools. In the elementary grades, language arts and math always take the bulk of time, but schools vary widely on the amount of time actually used for instruction. In secondary schools the curricular emphasis, as measured by the allocation of teachers per subject, is also diverse. One high school, serving a middle-to-low income white and Hispanic community,

devoted 42% of its faculty to vocational education, compared to 13% of the faculty at another high school in a relatively affluent urban area. Goodlad feels that these variations are largely unplanned, not the result of considered local need and preference.

Attendance at one school versus another thus influences a student's access to various courses and to instructional time, but even within a single school students receive very different educations because of ability grouping. Grouping begins in the early grades and becomes solidified in the secondary school's academic/vocational split. In observations of high, middle, and low track classes, the Study of Schooling found significant differences in curricular content, instructional procedures, and elements of the student-teacher relationship, which "suggest the probability of marked inequities among students in regard to the access to knowledge and pedagogical practices." (p.152) High track classes offer more instructional time, more homework, more emphasis on higher cognitive processes and independent thinking, clearer expectations, more teacher enthusiasm, more effective instructional practices, and better social relationships. Middle track classes and mixed ability classes tend to follow these patterns, leaving low track classes, which contain a preponderance of minority/low income students, in relative isolation.

Thus we appear to have a school system which emphasizes the "basics" and which mirrors social inequities through differential education. This may be exactly what many people want. But part of our educational philosophy relates to the "common school" which gives an equal start in life to everyone. The "common school" now quantitatively provides 12 years of universal education, but it is not providing the same education to everyone. If the "common school" truly is one of our educational goals, we must do things differently. The same is true of the goal of developing self-direction and higher order thinking skills in students. Does our society really need or want a lot of creative, autonomous citizens? Depending on the answer, we should revise either our schools or our goals.

Ambience/Satisfaction. All the schools studied showed remarkable regularity in the packaging, presentation, and testing of subject matter; in the classroom ethos of teacher domination/student passivity; in the rewarding of individual over group accomplishmen;, in the fragmentation of knowledge by the age-grade course structure; and in the increasing artificiality and irrelevance of subject matter over the grades. Yet some schools were rated as "satisfying" by their teachers, parents, and students while others were not. Satisfaction is a criteria for school quality and it is largely based on the school's "ambience," the feelings it evokes in its participants. School size was found to have a negative effect on satisfaction, but satisfaction's other indicators related mainly to human interaction. For example, satisfaction correlated to the match between preferred and perceived school goals and to the perception of major problems in the school. Since schooling practices vary so little between "more satisfying" and "less satisfying" schools, the potential for school improvement lies in improving "ambience."

The School as the Unit of Change. Every school has a different ambience; therefore, change must be made separately in each school, based on the analysis of its own ambience and patterns of satisfaction. Goodlad firmly rejects the use of any type of upper echelon mandate to promote change. He even refuses, on principle, to advocate universal abolition of tracking, a practice he finds exceedingly harmful. And he decries the action of one school board that, in response to the Study's instructional time findings, simply ordered a district-wide cut in recess time from 15 to 10 minutes.

He also refuses to put his own agenda for school change (Chapters 9 and 10) in "laundry list" form. Rather, throughout his book, he encourages local educators to examine their practices in light of their goals, to investigate the climate of their school and the satisfaction or dissatisfaction it evokes, and to carefully plan changes based on this knowledge. "Developing the capability to effect improvements is more important than effecting a specific change." (p.282)

Yet Goodlad does present an agenda in Chapter 9 for changing the schools we have and, in Chapter 10, envisions the schools we might have should a sufficiently strong group begin to feel the possibility for doing things differently.

Improving the Schools We Have. Since the school is the unit for change, the balance of decision-making and budgetary power should be there. The state should be responsible for setting clear, current, and consistent goals for education. It should get out of the business of mandating curriculum. The district should communicate these goals to the schools and should provide the schools with a general framework in which to operate, overseeing curricular balance and providing consultation on programs and an equitable distribution of resources.

If this scheme is to work, much greater attention must be given to the leadership skills of principals. Districts should continually search for leadership talent and provide candidates with training.

Each school should examine its curricular balance in light of its goals. Instructional time can be increased at no cost through improved efficiency and instructional practices. Only if this is inadequate should a longer school day be considered. More time for poor teaching accomplishes nothing.

At the secondary level, the inequities of tracking could be solved by a core curriculum, based on the five domains identified in the 1945 Harvard report, General Education in a Free Society: mathematics and science, literature and language, society and social studies, the arts, the vocations. (In this scheme, vocational education is another "way of knowing," not specific training for low-level jobs.) Goodlad suggests that all secondary students take a program of up to 18% literature and language (English and other), 18% mathematics and sciences, and 15% each in the other three domains, plus 10% physical education. Within each domain, two-

thirds of the coursework would be common to all. Remediation, enrichment, and a limited array of electives would take up the other third. Individual differences would be accommodated by mastery learning and heterogeneous grouping.

Each student's remaining time, roughly 10%, would be left to personal choice for the pursuit of special talents and interests. A system of instructional time vouchers would allow each student to exercise these choices, perhaps by taking a college course.

Curriculum content can be improved by the establishment of national research and development centers for curriculum and teaching methods, each with a subject focus covering the full 12-grade sequence. Curriculum design centers, one or more per state, could help schools evaluate and organize their curricula and develop exemplary programs. Funding for these centers might come from government and private, especially corporate, sources.

To improve instruction, we must break away from the conventional teaching mode that dominates everywhere. "Key" schools, with university and network support, could experiment freely with new methods and ideas. Magnet schools might take on this task. Other "demonstration" schools could then aid implementation of successful practices. At existing schools, a head teacher, at higher salary, could model for and assist other teachers, replacing the principal as instructional leader.

Several organizational changes could be made in our schools. Articulation could be managed by a headmaster or headmistress appointed to address matters of continuity and sequence between a high school and its feeder schools. Elementary school staffing could be better balanced through more careful selection of teachers by their strengths and specialties and through the use of some part-time teachers (e.g., for computer education) and aides.

Since large school size decreases satisfaction, while age-grade structures and tracking fragment learning, vertically-grouped schools-within-schools or "houses" should be established. Working with the same students for several years would allow teachers to learn students' individual differences and to accommodate them.

The quality of teaching can be improved through a career ladder that brings greater financial rewards. However, advancement up the ladder should require further education, not just seniority.

Universities should make a greater commitment to quality education for prospective teachers. Student teaching should be done only at "key" schools where trainees will get a firm grounding in innovative practices, not a reinforcement of conventional ways.

Beyond the Schools We Have. The previous recommendations challenge few current conventions of schooling, but Goodlad also envisions a new form of schooling to account for the youth culture and for rapid technological change.

Since so many preschoolers are already in day care and at that age are eager to learn, while so many adolescents are alienated from school, Goodlad suggests that the 12 years of compulsory schooling take place from ages 4 through 16. There would be 3 segments of school, each 4 years long: primary, elementary, and secondary. Each school would consist of vertically-grouped "houses" of no more than 100 primary or elementary students and no more than 150-160 secondary students. To make the experience more personal, each student would begin school or change schools on his or her birthday, not on an arbitrary first day of school. All teaching would be based on continuous diagnosis and assessment.

The primary grades would emphasize socialization, self-confidence, awareness of others, and the movement from concrete to abstract concepts. The elementary phase would focus on the use of the academic, social, and physical skills previously acquired. Learning would be very active and "real." The secondary school would concentrate on immersion in and acquisition of humankind's disciplined ways of knowing. It should allow students to demonstrate mastery and to gain a sense of style. Career concepts could be integrated throughout all 12 years.

If society is not prepared to see 16-year-olds out of school, a fourth phase of schooling, for ages 16 to 18 or 20 might be designed to combine study, work, and service.

To fulfill its role in education, the school must know the boundaries of that role. School has always been only one of society's educative institutions, but the traditional constellation—home, church, school—has fallen apart. The schools must find their place in the new ecosystem of education, which includes the community, arts institutions, business, and the media, to form the Educative Society that will serve all. Goodlad has made a step in this direction with the formation of The Partnership, a collaborative network designed to identify and share resources.

CA MODEL

Raising Expectations: Model Graduation Requirements: Approved Unanimously by the California State Board of Education on June 10, 1983. Sacramento: California State Department of Education, 1983, 84pp. (Publications Sales, California State Department of Education, P.O. Box 271, Sacramento, CA 95802, Telephone (916) 445-1260; $2.75, California residents add sales tax)

Since 1969, high school graduation requirements in California have been set by local school districts. Standards vary widely. The need for greater uniformity, plus California's need for technically-trained workers and the national call for educational reform, led the State Board of Education to adopt these model requirements as a first step to improving educational quality in the state.

Draft standards were developed in December, 1982, and reviewed at public hearings. The curriculum suggested is consistent with state curriculum frameworks, state higher education admission standards, and other curricular recommendations.

The Board has requested that every school district maintaining high schools review its offerings during the 1983-84 school year and report its proposed graduation requirements to the Board by 6/1/84. It suggests that new standards be phased in with the class that enters high school in 1984, and graduates in 1988. The Board recognizes the need to seek solutions to problems of school schedules, financing, and the supply of teachers.

The model requirements are intended to provide all California students, including those with exceptional needs, with a challenging education that will prepare them to enter postsecondary study, work, or both, and to fulfill their role as citizens in a free society.

The list includes only required courses. It does not abolish other state-mandated requirements, such as two years of physical education. The Board also expects districts to retain health instruction and vocational education.

While the model represents a strong academic program for all students, the Board does recommend some flexibility in its application. Alternative schools are encouraged to develop a variety of approaches. Some of the requirements can be taught prior to grade 9. Districts should develop plans that allow students with previous instruction or experience to "test out" of certain requirements, which would leave them more time in high school for elective studies.

Model Graduation Requirements

Subject area	Requirement	
Computer Studies		1 semester
English		4 years
Foreign Language		2 years (in the same language)
Mathematics		3 years
Algebra I	1 year (at least)	
Geometry	1 year	
District Option	1 year	
Natural Sciences		2 years
Science I (Physical-Earth)	1 year	
Science II (Life)	1 year	
Social Sciences		3 years
World Civilizations: History, Geography, and Culture	1 year	
The United States: Ideals, Institutions, and Traditions	1 year	
Individual Rights and Civic Responsibilities		
I Political, Legal, and Ethical Perspectives	1 semester	
II Economics	1 semester	
Visual and Performing Arts		1 year

The bulk of this volume consists of descriptions of the required courses. Each provides course title, level, length, prerequisites, aims, objectives, and content outline. Only an overview can be provided here.

Computer Studies: 1 Semester. The purpose of this course is to acquaint students with the variety of computer applications, the impact of computers on society, technological careers, the computer as a problem solving tool, and programming. Eventually much of this subject matter will be absorbed by computer experience in the K-8 grades and by subject matter applications, e.g., word processing in writing, calculations in science. As technology becomes simplified, the emphasis will turn toward using the computer as a tool for thinking and problem solving.

Course content should include: background on computers (history, machine components, specialized vocabulary), tasks computers can perform, software and languages, start-up computer skills, introduction to a programming language, problem solving with computers (breaking a problem into components, developing a solution strategy, structuring a program), using applications programs, computers in society, and ethical issues.

English: 4 Years. These four years focus on competency in language (skills in listening and speaking, academic research, higher order reading comprehension, language usage and writing, literary analysis, and critical thinking) and on appreciation of literature as an art form and an expression of human experience. Advanced ESL may substitute for two semesters of regular English. English I through IV (one semester each) emphasize the development of the language skills listed above. They vary in the complexity of skills, content, and assignments required of students. For example, English III will require a term paper, English IV, participation in a forum, the writing of position papers, and creative work following specific literary models, such as the sonnet. American literature is mentioned for English I and III; English IV specifies classical literature.

The fourth year of the English requirement is to be met by two one-semester electives, developed locally. Suggestions include: advanced placement composition and literature; journalism; Shakespeare. These electives are to match required courses in quality and to include extensive writing, speaking, and reading.

Foreign Language: 2 Years. Instruction is designed to develop conversational/communication skills and knowledge and appreciation of the target culture. By the end of the second year of instruction the student should be able to converse with a native speaker, read, express himself or herself in writing, and recognize and appreciate cultural similarities and differences.

Mathematics: 3 Years. Six options are presented for fulfilling the three-year mathematics sequence. All include a year each of Algebra I and geometry. The third year may be filled by a second year (two-year course) in Algebra I, pre-algebra, Algebra II, consumer mathematics, or probability and statistics. Outlines for these optional courses are presented in Appendix B (pp.73-79). In the senior year, the requirement might be filled by an advanced course, such as trigonometry, but no outlines are provided.

Prerequisites are listed for students entering any of the high school mathematics sequences. They include: computations with whole numbers; fractions, decimals, and percent; translation of situations and verbal problems into mathematical statements; facility in rounding, approximation, and numerical estimation; use and interpretation of graphs and tables; computation of perimeters, areas, and volumes of simple geometric figures.

As noted above, Algebra I may be a one- or two-year course. Emphasis is on mastery of previous coursework, algebraic concepts, problem solving, and applications of mathematics to other subjects and to "real world" situations.

The geometry course has similar objectives. Theorems, analytic geometry, and transformational geometry are included.

Pre-algebra focuses on number sense, basic skills, problem solving, and applications related to the world of work. Algebra II is intended for students who will continue their studies in mathematics and science. Consumer math also has a "real world" emphasis, with stress on computation and the use of calculators and computers. All of these are one-year courses. Probability and Statistics is a one-semester course focused on organizing, analyzing, and interpreting data.

Natural Science: 2 Years. Both years of science emphasize the scientific method; logical and creative thinking; basic concepts and principles; and an appreciation of interdependence, the impact of science on society, and values.

Science I - Physical and Earth. Contains units on matter, energy, kinetics, space science-astronomy, geology, natural resources, and meteorology. Instruction in the metric system is to be provided.

Science II - Life. Consists of units on living things, plants, protists, animals, human beings (including health), and ecosystems.

Social Sciences: 3 Years. This sequence focuses on knowledge and appreciations that will help the student function as a humane, responsible American citizen in a diverse society and an increasingly interdependent world.

World Civilizations: History, Geography, and Culture. Uses these three perspectives to examine and compare Western and non-Western civilization. Because of its significance to the development of the United States, European culture and heritage will be studied in depth, along with one or more of the following: Asian Pacific, China, Japan, India, the Middle East, the Americas, sub-Saharan Africa, the USSR. Topics might include nation building, social and family life, religion, law, the arts, roles of women and minorities, significant persons, and cultural exchange interrelationships.

The United States: Ideals, Institutions, and Traditions. This is to be the eleventh grade offering. It focuses on the significant events, major documents, key ideas, and key people in the history of the United States and on the role of our nation in the world.

The grade 12 course, Individual Rights and Civic Responsibilities, prepares students for their citizenship responsibilities. Part I (Political, Legal, and Ethical Perspectives) deals with the principles and operations of American government, and with democratic values and behaviors. Part II (Economics) covers general economic principles, personal economics, the American economic system, and its relation to the world.

Visual and Performing Arts: 1 Year. This requirement may be met by a one-year integrated course (or one semester each) of any two of the following: dance, drama/theater, music, or visual arts. Separate outlines are presented for each but all contain the same basic learnings: perception of aesthetic qualities; formal elements and technical aspects of the art; its variety of forms; periods and styles within various historical and cultural contexts; relationships to other art forms; viewing; and appreciation.

Appendixes to this report include a chronology of the model's development, acknowledgements, and a selected list of State Department of Education publications.

SB 813

Senate Bill 813, Chapter 498 of the Statutes of 1983: The Hughes-Hart Education Act of 1983. Sacramento: California State Legislature, 1983, 214pp.

"SEC.2. The Legislature declares its intent to encourage continued reform and improvement of California's elementary and secondary schools through a series of reforms, incentives, and strategies which can provide for the educational, personal, and career needs of every pupil. The Legislature believes that our schools should:

(a) Provide a variety of instructional styles and classroom settings which accommodate the differing ways that research has shown children learn.

(b) Maintain orderly and efficient school campuses which encourage positive attitudes among students and high morale and high quality teaching from teachers.

(c) Ensure that the specialized needs of identified groups of students are met by the effective use of categorical aid funding.

(d) Provide appropriate and meaningful instruction to meet the variety of future and career goals of students.

(e) Assure that pupils achieve academic proficiency in the essential areas of skill and knowledge.

(f) Identify and respond to the individual educational needs of pupils, each of whom is a unique human being who can ultimately become a responsible and contributing member of society.

(g) Develop each pupil's sense of respect of self and others, personal and social responsibility, and critical thinking.

(h) Involve parents and community members in a broad range of activities at each school, recognizing the vital role parental attitudes and values have in their children's education."

This bill, signed by Governor Deukmejian on July 28, 1983, contains numerous provisions relating to curriculum, personnel relations, student transportation and finance. Only those provisions relating to educational quality or improvement will be summarized here.

Curriculum, Instruction, Standards

- Every district shall offer a secondary (grades 7-12) course of study that prepares "otherwise qualified pupils" for admission to California's public universities or for entry-level employment. (Sec.97) Commencing with the 1986-87 school year, no pupil will receive a high school diploma who has not in grades 9-12 completed:

3 years of English
2 years of mathematics
2 years of science (biological and physical)
3 years of social studies (U.S. history and geography; world history, culture, and geography; American government, civics, and economics)
1 year of fine arts or foreign language
2 years of physical education (unless exempted)
Such other coursework as the district may specify (Sec.94)

- The governing board of each district shall, with active participation by educators, parents, and students, adopt alternative means for completing these requirements, e.g., independent study, supervised work experience. (Sec.94)

- Every elementary district shall certify that its adopted program adequately prepares pupils for their high school requirements. (Sec.95)

- The State Superintendent of Public Instruction shall, with broad input, coordinate the development of model curriculum standards for the new high school course of study. These standards shall present a wide range of specific competencies, including higher level skills, in each academic subject. The superintendent shall review currently available textbooks in conjunction with these standards. No regulations may be made on course content or instructional methods. At least every three years, districts shall review their curriculum in light of these standards. (Sec.96)

- "Program guidelines issued by the State Department of Education shall be designed to serve as a model or example, and shall not be prescriptive." (Sec.16)

- Establishes the Classroom Teacher Instructional Improvement Program to provide grants, not to exceed $2,000 per teacher, to classroom teachers for instructional improvement. Funding will cover up to 5% of a district's eligible teachers. Grant proposals will be reviewed by a district committee, mainly consisting of teachers, and awarded by the district board. (Sec.43, Chapter 3.3)

- Beginning in 1984-85, the Educational Improvement Incentive Program will give up to $400 per pupil to schools that improve their composite grade 12 student achievement scores on the California Assessment Program exams. District participation in the program is voluntary. (Sec.110, Article 2.5)

- Extends state instructional materials funding to grades 9-12 at $14.41 per pupil. (Sec.114-117)

- Requires every school district and county office of education to adopt policies on pupil promotion and retention. (Sec.81, Article 7)

- Requires the State Board of Education to approve a model course of study in computer education, K-12, and submit it to the Legislature by 7/1/84. (Sec.226)

- Requires the State Superintendent to report, by 11/15/83, on the feasibility of studying the current high school accreditation process. (Sec.230)

Guidance and Counseling

- Provides supplemental funding of $20 per grade 10 student to insure that every high school sophomore receives a systematic review of his or her academic progress and counseling about the last two years of schooling. (Sec.84-85)

- Requires statewide testing to include grade 8 (and grade 10 if resources are made available) in basic skills and content courses. (Sec.119)

- Establishes a voluntary Golden State Examination Program for high school students through which they can win a special honors designation on their diplomas. Tests will be developed in the academic subjects. (Sec.123)

School Day and Year

- High school seniors must take the equivalent of five courses per semester. Seniors who will meet all requirements and who are enrolled in work experience may be exempted from the minimum 180 minute day. (Sec.78-79)

- Offers funds to districts that provide 180 or more days of instruction in 1984-85. Offers incentive funding to increase instructional time to meet these goals in 1986-87:

Kindergarten:	36,000 minutes/year
Grades 1-3:	50,400 minutes/year
Grades 4-8:	54,000 minutes/year
Grades 9-12:	64,800 minutes/year

  Penalizes districts that offer less instructional time than in 1982-83. (Sec.80, Article 8)

Attendance, Discipline, Dropouts

- Districts must notify parents of a truant, explaining the parent's legal rights and the programs available. (Sec.82)

- Districts may adopt policies that permit teachers to fail students for excessive unexcused absences. (Sec.92)

- Suspension and expulsion are mandated for certain violent offenses. Teachers may suspend students from class and require them to complete missed assignments. A suspension notice must be sent to parent or

guardian, requesting a conference. An expulsion order may be suspended while a student attends an appropriate rehabilitation program. Parents or students must make restitution for willful school violence or vandalism. (Sec.91, Article 1)

- Maintains continuation schools and classes that provide for completion of high school work, occupational orientation or work-study with intensive guidance, and individualized programming. (Sec.83)

- Provides up to $400 per additional pupil to increase the availability of opportunity classes in grades 7-9. (Sec.89, Article 2.3)

- Requires the State Superintendent to report to the Legislature by 11/15/83 on the feasibility of studying the characteristics of school dropouts. (Sec.229)

Teachers

- Raises the lowest teacher salary step by 30% over the next three years not to exceed $18,000, adjusted for inflation. (Sec.69)

- Establishes the California Teacher Shortage Loan Assumption Program to assume Federal student loans, up to $8,000, of qualified college graduates or practicing teachers enrolled in appropriate training who agree to teach 3 years in a California public school that is experiencing a teacher shortage in math, science, or some other key area. (Sec. 126, Article 6)

- Authorizes the Commission on Teacher Credentialing to issue 2-year teacher trainee certificates to college graduates who pass basic skills and subject matter exams. ~~They may teach in their academic~~ major or minor field under supervision of a mentor teacher. Upon completion of the program and board recommendation, the trainee will receive a teaching credential. (Sec.25.5) A teacher trainee may only be employed if it is shown that a fully credentialed teacher is not available. The district must create a professional development plan for the trainee in cooperation with an accredited school of education. (Sec.45)

- An employee may not be reassigned to a subject for which he or she is not credentialed, trained, or experienced without passage of a subject matter competency examination. (Sec.65)

- The Commission on Teacher Credentialing shall work with teacher education programs to ensure that faculty who teach methods courses actively participate in K-12 classrooms at least once every three years. (Sec.24)

- Creates the California Mentor Teacher Program. Requires the State Board of Education to prepare program guidelines by 1/1/84.

A mentor teacher must: be a credentialed classroom teacher with permanent status; have substantial recent classroom experience; and have demonstrated exemplary teaching ability. Up to 5% of a district's eligible teachers may receive the mentor designation,

which will be awarded by the district board based on nominations of a committee consisting mainly of classroom teachers. Classroom observation will be part of the selection process.

The mentor designation will last no longer than 3 years, but renomination is possible.

The mentor teacher will receive at least $4,000 per year over regular salary and may choose to take some or all of the stipend in professional growth activities or release time. The state shall pay the stipends and mentor program costs.

Mentor teachers shall average no less than 60% time in direct instruction of pupils. Their primary extra responsibility will be to assist and guide new teachers. They may also assist experienced teachers, provide staff development, or develop special curriculum. They may not participate in teacher evaluation. (Sec.28, Article 4)

- By 12/1/84 each district board must prepare policies that: (1) certify the competence of teacher evaluators; (2) recognize the training and evaluation needs of probationary employees; and (3) provide avenues for parent complaints about employees. (Sec.18)

- Teachers receiving unsatisfactory evaluations on instruction can be required to enroll in a professional development program. (Sec.31)

- Outlines procedures for dismissing permanent employees for incompetency or professional misconduct and probationary employees for cause. Nonsubstantive procedural errors shall not be used to reverse a decision to dismiss or suspend. (Sec. 51-64).

- In lay-off or re-hiring decisions, the district may deviate from seniority if it can demonstrate that needed skills or training are held by less senior employees. (Sec.65-68)

- Districts can terminate employees after passage of the Budget Act and before August 15 for demonstrable lack of funds. (Sec.65.5)

- Expands local staff development through the teacher education and computer (TEC) centers emphasizing math, science, technology, and other areas of teacher shortage. The State Superintendent may set aside money to fund exemplary projects. (Sec.33, Article 2)

- After 9/1/85, persons applying for teaching credentials will have to complete 150 hours of professional growth every five years to maintain their credentials. (Sec.25)

- Allows collective bargaining on (1) procedures and criteria for lay-off of employees due to lack of funds or (2) additional compensation based on criteria other than years of training or experience. (Sec.128)

School Administration

- Provides funds for administrator training and evaluation programs in clinical supervision and instructional leadership, to be operated in conjunction with the TEC Centers. (Sec.34-41, Article 3)

- Funds pilot projects for recruiting and training school administrators. (Sec. 42, Chapter 3.15)

- Supports innovative local experiments to improve efficiency of school district operations, devise incentives for service in high demand areas, or improve on-the-job training and evaluation. (Sec.44, Chapter 3.3)

- Creates a Commission on School Governance and Management to study and report on by 10/1/84: consolidation of state and regional agencies and functions, efficient school and district size, elimination of duplication, and effective size and function of non-teaching staff. (Sec.17, Article 7)

Special Programs

- Provides start-up funds in 1984-85 for locally or regionally developed specialized high schools, particularly for training in high technology and the performing arts. These schools are to develop model curricula. They may employ noncredentialed persons as teachers. (Sec.112, Chapter 6)

- Establishes the California Academic Partnership, funding postsecondary projects that assist secondary schools in counseling, tutoring, teacher education, and curriculum development. (Sec.8, Chapter 11)

- Requires regional occupation centers to provide individual vocational counseling and curriculum relevant to present and future occupations, and to assign highest priority to youth, ages 16-18, with incentive funding. (Sec.100)

- Encourages local business to recognize students who receive honors through the Golden State Examination Program. (Sec.123)

UC

University of California Requirements for Freshman Admission (Effective 1986). Pamphlet, 4pp. (California State Department of Education Resource: Mr. Paul Gusmen, Telephone (916) 445-1703)

To gain admission to the University of California a student will have to meet these requirements:

Units. At least 16 units in grades 9-12. (1 unit=1 year; 1/2 unit=1 semester) Fifteen of these must be in academic or college preparatory courses, at least seven of these in grades 11-12.

Course Requirements

- History - 1 unit of U.S. history or 1/2 unit each of U.S. history and American government
- English - 4 units of college preparatory English composition and literature, with strong preparation in expository writing. "Also, not more than two semesters of ninth-grade English will be accepted . . .."
- Mathematics - 3 units: elementary algebra, geometry, and intermediate algebra. Junior high courses may be counted if accepted by the high school as equivalent.
- Laboratory Science - 1 unit in grades 10-12.
- Foreign Language - 2 units in one language with emphasis on oral and aural skills but also grammar, vocabulary, reading, and comprehension. Junior high courses may be counted if accepted by the high school as equivalent.
- College preparatory electives - 4 additional units from at least two of the above areas and/or advanced mathematics, social science, fine arts. Electives should emphasize reading, analytical reasoning, writing, and oral expression. Unacceptable electives are: arithmetic, shop, consumer or business math; a different foreign language unless two full years are completed; social science courses of an applied, service, or vocational nature; arts electives that are primarily recreational or are offered as physical education.

Grade Point Average. Only courses taken in grades 10-12 are used for the computation of grade point average (GPA) for University admission. All required courses and at least two of the four elective units must be completed with a C (2.0) or better. (All four elective units must be passed, however.) The third year of math will be counted only if it improves the student's GPA. The two best grades of the four elective units will be included in the GPA.

To encourage advanced work, the University will, beginning with 1984 high school graduates, count up to 4 units in designated honors courses on a higher grade point scale: A=5, B=4, C=3. These courses must be taken in grades 11-12 in history, English, advanced mathematics, laboratory science, or foreign language.

Guidelines for Honors Level Courses

Preparatory courses for the College Board Advanced Placement Examination or transferable college courses are considered honors courses. Honors courses must have established prerequisites, extended content, additional workload, and a comprehensive written final examination. Except for Advanced Placement courses, the honors course must be supplemental to a regular course at the same grade level, and no more than one course per academic subject may be certified as honors. Course documentation may be requested by the Board of Admissions and Relations with Schools.

PART III

RECOMMENDATIONS IN COMPARISON

Specific views and recommendations from the sixteen proposals are grouped by topic, in direct quotations or paraphrase. The abbreviated proposal titles of Part I are used again here, and a page reference to the source document is provided for each listing. When two or more reports carry a recommendation of common substance or wording, one has been replaced with the bracketed phrase: [Similar to . . .]. It should be understood that these are the interpretations of the present author; they do not reflect references made in the original texts.

It can be misleading to extract isolated quotes or ideas from a text for purposes of comparison, especially when the texts being compared range in length from one page to several hundred pages. Short quotations and paraphrases may distort the original author's intent. The reader should refer to the summaries in Part II or, better yet, to the original sixteen proposals for clarification of context and a full appreciation of meaning.

Affirmative Action

ACTION
p.40 — Increase participation of women and minorities in education for careers in which they are under-represented, e.g., science and mathematics.

ECONOMIC PROGRESS
p.6 — [Similar to Action]

FEOL
p.5 — [Similar to Action]

Arts Education

ACSA

Basic High School Core calls for 1 year of visual/performing arts.

CA MODEL
pp.59-68 — Fine Arts: one year required in high school of an integrated course (or one semester each) of any two of the following: dance, drama/theater, music, or visual art. Emphasis on aesthetic perception, formal elements

and techniques of the art, varieties, periods, and styles within various cultural and historical contexts, relationships to other art forms, viewing, appreciation.

EQUALITY
pp.16-18 College entrants will profit from a general introduction to the arts (their processes and cultural contexts) and a more extensive preparation in at least one of the following areas: visual arts, theater, music, and dance. This preparation should help them to identify forms and historical periods, analyze the structure of an artwork, and evaluate and express themselves through that art form.

SB 813
Sec.94 As of 1986-87, one year of fine arts or foreign language in grades 9-12 will be required for graduation.

UC
p.2 Fine arts courses emphasizing appreciation and expression may be used to meet the UC entrance requirements for college preparatory electives. Courses with a recreational or physical education focus will not be accepted.

Attendance

ACTION
p.41 Launch programs to reduce student absenteeism.

FEOL
p.6 A high level of attendance, determined by the local community, should be required for promotion or graduation.

RISK
p.30 "Attendance policies with clear incentives and sanctions should be used to reduce the amount of time lost through student absenteeism and tardiness."

ROUNDTABLE
pp.22-24 Revise state law to increase penalties for truancy, strengthen school attendance services, and mandate school-by-school reporting of attendance and dropout rate.

SB 813
Sec.82 Districts must notify the parents/guardians of a truant, explaining their legal obligations and programs available to truants in the schools.

Sec.92 Districts may adopt regulations allowing teachers to fail students for excessive unexcused absences.

Bilingual Education

TWENTIETH
p.12 ". . .federal funds now going to bilingual programs [should] be used to teach non-English-speaking children how to speak, read, and write English."

Business Role

ACTION
pp.34, 39-40 Business and labor leaders and the professions must become involved with the schools: helping to marshal financial resources, communicating skills needed by the workforce, lending management expertise, and encouraging employee involvement with the schools. Businesses should establish partnerships with the schools to provide actual job experiences to teachers and students, shared courses, recognition for outstanding educators, etc.

CARNEGIE
pp.192-193 Computer companies selling hardware to the schools should provide teacher training and funds for instructional software development.

pp.268-280 Business and industry should assist the schools through partnerships. They can provide funds and assistance for helping disadvantaged and gifted students, providing continuing education for teachers and administrators, smoothing student transition from school to work, and upgrading educational facilities.

ROUNDTABLE

This entire report focuses on the role California business can play in improving the performance of the state's secondary school students. Recommendations are grouped in four main areas:

(1) raise educational standards;
(2) upgrade technical education;
(3) increase community involvement; and
(4) reform finance and strengthen the teaching profession.

In all cases it is suggested that business not only make its own initiatives, through individual companies and

corporate groups, but that it encourage action by the state and schools and that it form coalitions with other sectors. For further details, please see the text in Part II.

pp.56-58 A nonprofit corporation should be established to encourage, link, and coordinate local business-education partnerships and community coalitions throughout California.

Career Ladders

ACTION

p.37 Strongly recommended to attract and keep outstanding teachers. Ladders should provide different levels of responsibility, pay, and status.

CARNEGIE

pp.179-180 Proposes the following career sequence, each step involving salary increments:

Associate Teacher: Has passed credentialing exam. Works for 2 years minimum carrying a full teaching load under a senior teacher.

Regular Teacher: Achieves this position by submitting recommendations and having teaching performance reviewed. Tenure begins.

Senior Teacher: Requires 3 years service as a regular teacher and assessment by a panel of master teachers.

FEOL

p.3 [Similar to Action]

GOODLAD

p.313 [Similar to Action]

MERIT PAY

p.5 Considers this as a form of performance-based pay, advocated by its general recommendation. Provides this sample scheme:

"Apprentice Teacher—must meet all state requirements for initial certification and hold degree from an accredited college or university. Entry-level salary of at least $15,000.

Professional Teacher—fully certified teacher with five years' experience and at least four positive annual evaluations and some in-service training or postgraduate course work. Base Fifth Year Salary $20,000.

Senior Teacher—certified teacher, Masters degree in discipline taught or area of concentration, and at least 8 of 10 positive annual evaluations. Base Tenth Year Salary $30,000.

Master Teacher—certified teacher, 'best practice' demonstrated, additional study beyond Masters degree, more than ten years of consistently positive evaluations, willing to accept inservice or summer training responsibility for other teachers. Base Pay after Tenth Year when requirements met $35,000. Minimum annual bonus for continuing positive evaluations and in-service contribution $10,000."

RISK
p.31 [Similar to Action]

College Preparation

NOTE: For other course requirements for college-bound students, please see the curriculum chart in Part I.

ACTION
p.39 Colleges and universities should upgrade their entrance requirements.

EQUALITY
p.2 To be ready to take full advantage of higher education, a high school student must receive a solid grounding in six Basic Academic Subjects and six Basic Academic Competencies--the general skills needed for work in all subjects. The bulk of this report is spent in outlining the Basic Subjects (English, the arts, mathematics, science, social studies, and foreign language) and the Basic Competencies (reading, writing, speaking and listening, mathematics, reasoning, studying). Computer competency and a seventh Academic Competency, Observing, are discussed separately. For further details, please see the text in Part II.

FEOL
p.6 [Similar to Action]

RISK
p.27 [Similar to Action]

UC
pp.1-4 Admission to the University of California will, effective 1986, require a minimum of 16 units (years) in grades 9-12, at least 15 of them in college preparatory courses, 7

of those taken in grades 11-12. Specific requirements are:

(1) history - 1 unit U.S. history or 1/2 unit each U.S. history and civics;
(2) English - 4 units of college preparatory courses;
(3) mathematics - 3 units: elementary algebra, geometry, and intermediate algebra;
(4) laboratory science - 1 unit in grades 10-12;
(5) foreign language - 2 units in the same language;
(6) electives - 4 college preparatory units in at least 2 academic subjects and/or fine arts.

College Role

ACTION

p.35 State government, state education officers, local school boards, and college leaders should establish partnerships to improve public education, for example, to provide regional programs for the gifted.

CARNEGIE

pp.254-255 Every state should establish a Coordination Panel to articulate high school to college curriculum. High schools and colleges should work out more flexible transition patterns for accelerated students, e.g., advanced placement, credit by examination, or "university in the school" programs. Colleges should take an active role in the continuing education of high school teachers. Every college and university should establish a close working partnership with one or more secondary schools, focusing on specific goals and projects, not merely academic "togetherness."

ECONOMIC PROGRESS

p.7 ". . . build lasting bridges between schools and colleges for mutual benefit."

MERIT PAY

p.7 Colleges and universities should increase institutional support and budgets for teacher education programs. Colleges and universities should form more effective partnerships with K-12 schools.

ROUNDTABLE

pp.33-35 Colleges should work with California business on cooperative programs to meet the crisis in secondary math/science education, e.g., teacher recruitment and education, supplementary coursework, curriculum development.

SB 813 Sec.8 Chapter 11	Establishes the California Academic Partnership Program funding postsecondary projects to assist secondary schools in counseling, tutoring, teacher education, and curriculum development.

Community Involvement

CARNEGIE p.286	Citizen involvement with the school board and the prestige of school board service should be increased.
p.296	"We propose that coalitions of citizens--Citizens for Public Schools--be formed in every community to give leadership in the advocacy of more support for public education."
ECONOMIC PROGRESS p.5	"Encourage partnerships among business/labor, education, and government."
EQUALITY pp.33-34	[Similar to Economic Progress]
ROUNDTABLE pp.12-13, 53-59	California business should mount a public awareness campaign to rally support for higher standards and for the schools in general, and to encourage parents and community members to assess their local schools and to become actively involved.

Computer Literacy

CA MODEL pp.5-9	1 semester required for high school graduation covering background on computers, parts and their functions, computer languages, basic computer operations, programming, computer programs as solution procedures, applications programs, computers in society, ethical issues.
CARNEGIE p.111	"The great urgency is not 'computer literacy' but 'technological literacy,' the need for students to see how society is being reshaped by our inventions. . . .

The challenge is not in learning how to use the latest piece of hardware but in asking when and why it should be used."

p.195 Hands-on experience for students is not the first priority.

EQUALITY

pp.11-12 Students entering college need "a basic knowledge of how computers work and of common terminology; some ability to use the computer and appropriate software for self-instruction, collection and retrieval of information, word processing, modeling, simulations, and decision making, and problem solving--both through the use of existing programs and through experience in developing one's own programs." They also need awareness of computer applications in academic disciplines, work, and daily life and the social and ethical issues surrounding computers.

p.21 Students preparing for a science or engineering major will need proficiency in computer programming.

FEOL

p.5 Computers should be integrated into the curriculum from the early grades. Students should know:

- o how a computer works
- o how to enter data
- o how to solve a computer problem
- o how to write a simple program
- o how to review output
- o how to propose solutions to common data interpretation and analysis problems.

PAIDEIA

p.24 ". . . at least introductory instruction in the use of, and programming for, computers."

RISK

pp.24,26 One-half year of computer science in high school, to "equip graduates to: (a) understand the computer as an information, computation, and communication device; (b) use the computer in the study of the other Basics and for personal and work-related purposes; and (c) understand the world of computers, electronics, and related technologies."

SB 813

Sec.226 The State Board of Education . . . shall approve a model course of study in computer education, K-12, and submit it to the Legislature for review by 7/1/84.

Counseling and Guidance

CARNEGIE
p.132 — High school guidance must be significantly expanded. "No counselor should have a caseload of more than 100 students." Districts should develop referral services to community agencies for students needing more sustained assistance.

SB 813
Sec.84-85 — Extends high school counseling to insure that every sophomore (or 16-year-old) receives "a systematic review of his or her academic progress and counseling regarding the educational options available . . . during the final two years of high school." Provides supplemental funding of $20 per pupil of prior year's grade 10 enrollment.

Curriculum Development

ECONOMIC PROGRESS
p.7 — "Enlist the best scientific minds of the nation to work on school and college curriculum projects as well as teacher training."

GOODLAD
p.293 — Create centers by subject area (e.g., the arts) for research and development in curriculum and pedagogy, covering the full K-12 sequence. Staff with educators on leave and finance by Federal government and foundation grants. Also, create more localized centers to work with the schools in implementing the curriculum developed by these R&D centers.

RISK
p.27 — Encourages such groups as the American Chemical Society and the National Council of Teachers of English to revise, update, and improve curriculum materials.

SB 813
Sec.96 — The Superintendent of Public Instruction shall, with broad input, coordinate the development of model curriculum standards for the new high school course of study.

Curriculum--Elementary

CA MODEL
p.3

To encourage flexibility and allow time for high school electives, districts should, whenever possible, permit students to fulfill some high school graduation requirements with coursework in the earlier grades, e.g., computer studies, Science I, foreign language.

RISK
pp.26-27

Should provide a sound basis in such areas as "English language development and writing, computational and problem solving skills, science, social studies, foreign language, and the arts. These years should foster an enthusiasm for learning . . . ."

SB 813
Sec.95

Each elementary school district shall certify that it has adopted an instructional policy that sufficiently prepares students for their high school requirements.

Curriculum--General

ACTION
p.38

States and local school systems should launch "energetic efforts" to strengthen the K-12 curriculum in all disciplines, not only providing for richer substance but also more student motivation and involvement and more attention to higher order skills such as problem solving and persuasive writing. Students should be introduced earlier to the core academic subjects and spend more time on them.

FEOL
p.5

All students, K-12, should learn English, math, history and social studies, science, and computer literacy. In addition, all students should have the opportunity to learn a second language. Fine arts and the humanities must remain prominent. Practical arts, vocational education, and physical education (emphasizing fitness) should be retained.

GOODLAD
p.281

The wide variability in curriculum content and time allocations between schools and within schools (through tracking) needs to be addressed but preferably not through state mandate or university entrance requirements.

p.283 At every school, the faculty should review state goals for education against their own distribution of teachers and courses across subject areas.

p.292 Two principles must guide long-term school curriculum improvement: (1) The role of K-12 schooling is the provision of general, not specialized, education, and (2) It will be necessary to provide for students' individual differences, but this should be done mainly through pedagogy, not through different curricula.

pp.304-6 Establish curriculum continuity between elementary and secondary schools, perhaps by appointing a headmaster or headmistress over a high school and its feeder schools.

PAIDEIA

pp.14-21 The Paideia curriculum for grades 1-12 is general, liberal, non-specialized, and non-vocational. It offers a single program for all students providing acquisition of knowledge, intellectual skills, and understandings through three instructional modes: didactic instruction, coaching, and Socratic discussion. There are no electives except choice of second language. Twelve years of physical education and some years of manual arts are required. This proposal is intended only as a framework on which individual schools and districts may construct their own curriculum. For additional details, please see the text in Part II.

PAIDEIA II

pp.44-45 The Paideia Group objects to the practice of turning social problems, like drug abuse, into school subjects.

Schools should be relieved of most of these burdens. However, those subjects deemed important or, like driver education, necessary by popular mandate, should be built into the Paideia curriculum designed by the local district.

Curriculum--High School

ACSA

Basic High School Core—competencies equivalent to:

3 years of English (reading, writing, speaking, listening)

3 years of Social Studies (U.S. history and government, economics, world cultures, and geography)

2 years of Mathematics (computation, problem solving, personal finance)

2 years of Science (life, physical, or computer or electronics)
1 year visual/performing arts
1 year entry level occupational training, to include computer literacy; survival skills; knowledge of work, ethics, job skills, and self
2 years of Physical Education, to include health, first aid, nutrition, CPR, life sports, and family life

Extended Academic Core--competencies equivalent to:
4 years of English (composition, literature, vocabulary)
3 years of Social Studies (history, geography, economics, social sciences, futures)
3 to 4 years of Mathematics (Algebra I and II, geometry, trigonometry, calculus)
2 to 3 years of Science (biology, chemistry, physics, zoology, physiology)
2 to 4 years of a foreign language

CA MODEL
pp.2-3

Model high school graduation requirements:

Computer Studies	1 semester
English	4 years
Foreign Language	2 years (of 1 language)
Mathematics	3 years
Algebra I (at least 1 year)	
Geometry (1 year)	
District Option (1 year)	
Natural Sciences	2 years
Science I: Physical - Earth (1 year)	
Science II: Life (1 year)	
Social Sciences	3 years
World Civilizations: History, Geography, Culture (1 year)	
United States: Ideals, Institutions, Traditions (1 year)	
Individual Rights and Civic Responsibilities	
I Political, Legal, and Ethical Perspectives (1 semester)	
II Economics (1 semester)	
Visual and Performing Arts	1 year

This model is to be considered in addition to state-mandated requirements; for example, two years of physical education.
Districts should plan alternative strategies for meeting

these requirements, e.g., coursework prior to grade 9, challenge exams.
These requirements are intended for all students.

CARNEGIE

pp.117, 126-130, 137 — The four-year high school should offer a single track program with a core curriculum. The first 2 years will be almost entirely core courses. Junior and senior years will be a "transition school" giving half time to electives based on personal needs and interests, both academic and vocational. This transition period will offer a wider range of learning options (e.g., mentorships, apprenticeships, early college study) as will the mandatory junior-year seminar on work and the Senior Independent Project.

p.115 — ". . . in addition to tightening requirements, we must bring a new interdisciplinary vision into the classroom and the total program of the school." The content of the core curriculum must extend beyond the specialties to touch larger, more transcendent issues. . ." Teachers must work collaboratively, viewing the curriculum in a more coherent way. To help students discover the integration of the subject disciplines, each student should complete a Senior Independent Project, a written report on a contemporary issue drawing upon many fields of study. (1/2 unit of credit).

p.117 — List of required core courses and their units (years):

Language 5 units	
Basic English: Writing	1
Speech	1/2
Literature	1
Foreign Language	2
Arts	1/2
History 2-1/2 units	
U. S. History	1
Western Civilization	1
Non-Western Studies	1/2
Civics	1
Science 2 units	
Physical Science	1
Biological Science	1
Mathematics	2
Technology	1/2
Health	1/2
Seminar on work	1/2
Senior Independent Project	1/2
	14-1/2

pp.209-210 — In addition, every high school student should complete 1 "Carnegie Unit" of volunteer service to school or

community across their four years of school, at no less than 30 hours per year. The program should be organized and monitored by the students themselves.

EQUALITY

p.2 To be ready to take full advantage of higher education, a high school student must receive a solid grounding in six Basic Academic Subjects and six Basic Academic Competencies--the general skills needed for work in all subjects. The bulk of this report is spent in outlining the Basic Subjects (English, the arts, mathematics, science, social studies, and foreign language) and the Basic Competencies (reading, writing, speaking and listening, mathematics, reasoning, studying). Computer competency and a seventh Academic Competency, Observing, are discussed separately. For further details, please see the text in Part II.

FEOL

pp.4-6 States and localities should formally prescribe high school graduation requirements. They might consider:

- 4 years of English
- 2 years of mathematics
- 2 years of science
- 2 years of history and social studies.

And for the college bound:

- 4 years of English
- 3 years of mathematics
- 3 years of science
- 2 years of foreign language

p.6 Attendance should also be considered as a requirement for promotion or graduation.

GOODLAD

pp.286+ Each secondary student should be required to experience 5 areas: math and science, literature and language, society and social studies, the arts, and the vocations—preferably an average of 18% time for each of the first two, 15% for each of the next three, and 10% for physical education over a given year or over the student's entire secondary program. The remaining 10% of the student's program would be left to individual choice. Within each of the five domains about two-thirds of all students' programs should be common. Remediation and enrichment must be accomplished within the time allotment for each domain, not spilling into others or the "free choice" sixth domain.

NASSP

p.4 Advocates the "Nation at Risk" course of study for the college-bound. Considers 2 years each of math and science sufficient for the job-bound, who should also have opportunities in school for technical and occupational training, e.g., typing, word processing,

power mechanics, data machine repair. Remedial reading, writing and math courses should be required for all students testing significantly below grade level.

PAIDEIA II

pp.50-53 To be addressed in more detail in The Paideia Program. In general, high school standards will be much higher, based on the knowledge, intellectual skills and understandings laid out in the Paideia curriculum framework.

RISK

p.24 Strengthen state and local high school graduation requirements, including the following required coursework in the New Basics for a 4-year high school program:

- 4 years of English
- 3 years of mathematics
- 3 years of science
- 3 years of social studies
- 1/2 year of computer science

Strongly recommends 2 years of foreign language for the college-bound.

pp.24-27 Additional courses should be offered in personal/occupational areas such as fine arts and vocational education. These programs should demand as high a level of performance as the New Basics.

ROUNDTABLE

pp.15-18 Establish statewide minimum graduation requirements, including a model community service requirement districts might adopt. Since resources may be inadequate in some districts to meet new standards immediately, consider a phase-in approach based on state assessment of impact and ability, and technical assistance from the State Department of Education, as needed.

pp.18-19 The State Board of Education should establish general curriculum quality guidelines and competency statements for each academic subject. With state technical assistance every district should revise their curriculum and instruction to meet these standards. Compliance should be monitored.

SB 813

Sec.97 Each school district shall offer a secondary (Grade 7-12) course of study that provides "otherwise qualified pupils" with the prerequisite for California public university admission or entry-level employment skills.

Sec.93-97 Commencing with the 1986-87 school year no pupil shall receive a high school diploma who has not, in grades 9-12, completed:

- 3 years of English;
- 2 years of mathematics;

2 years of science, including biological and physical sciences;
3 years of social studies including: U.S. history and geography; world history, culture and geography; and American government, civics, and economics;
1 year of fine arts or foreign language;
2 years of physical education, unless pupil is exempted; and
such other coursework as the governing board of the school district may by role specify.

The governing board, with the active involvement of educators, parents, and students, shall adopt alternate means for completing the required course of study, e.g., practical demonstration of skills and competencies, supervised work experience, independent study.

Sec.230 — Requires the State Superintendent to report to the Legislature by 11/15/83 on the feasibility of studying the current high school accreditation process.

UC

pp.1-4 — Admission to the University of California will, effective 1986, require a minimum of 16 units (years) in grades 9-12, at least 15 of them in college preparatory courses, 7 of those taken in grades 11-12. Specific requirements are:

(1) history - 1 unit U.S. history or 1/2 unit each U.S. history and civics;
(2) English - 4 units of college preparatory courses;
(3) mathematics - 3 units: elementary algebra, geometry, and intermediate algebra;
(4) laboratory science - 1 unit in grades 10-12;
(5) foreign language - 2 units in the same language;
(6) electives - 4 college preparatory units in at least 2 academic subjects and/or fine arts.

Discipline

ACTION

p.38 — ". . . states and localities [should] establish firm, explicit, and demanding requirements concerning discipline, attendance, homework, grades and other essentials of effective schooling . . ."

CARNEGIE

p.160 — "At a minimum, every school should have a fair, clearly stated, widely understood code of conduct. In addition, principals and other administrators have an obligation to see that standards of discipline are consistently and

fairly enforced throughout the school, that disruptive students are promptly removed from the classroom, and that teachers are supported in the maintenance of discipline."

FEOL
p.3 [Similar to Carnegie]

MERIT PAY
p.8 [Similar to Carnegie]

PAIDEIA
p.55 "Decorum" is necessary for learning. Children need clear and high expectations of behavior.

RISK
p.29 [Similar to Carnegie]

ROUNDTABLE
pp.22-24 Strengthen state law on suspension and expulsion, especially the powers of teachers and administrators.

SB 813
Sec.91 Article 1 The principal, designee, or superintendent shall expel students for serious offenses, e.g., violence, crime, drug sales, weapons. Parents or students shall make restitution for willful school violence or vandalism. A teacher may suspend any pupil from class for two days, for the offenses cited above. A suspended pupil shall not be placed in another regular class. A suspension notice must be sent to parent or guardian, requesting a conference. Teachers can require suspended pupils to complete any assignments and tests missed. Expulsion orders may be delayed while the pupil attends an appropriate rehabilitation school or program. Written testimony may be used in expulsion hearings if there is a risk of harm to the witness.

Dropouts

ACTION
p.41 ". . . establish broadly-based community programs to solve the dropout problem." Efforts must include revitalizing coursework and adding flexibility to meet special needs.

CARNEGIE
pp.245-246 Dropout prevention should start with academic skill building in the elementary grades. Federally-supported remedial programs (ESEA Title I) should be funded to reach all students who need it. In the upper grades, alternative schools for disaffected students might be

established. Also important is fostering closer student-teacher relationships through mentoring or tutoring.

pp.247-248 In conjunction with a community college, every high school should establish a re-entry school arrangement for dropouts.

pp.270-271 Businesses can provide tutors and role models for high risk students.

ROUNDTABLE

pp.22-24 Revise state law to mandate school-by-school reporting of attendance and dropout rate, and to require action plans of schools whose dropout rate exceeds ten percent.

SB 813

Sec.83 Maintain continuation education schools and classes to provide for completion of high school work, occupational orientation or work-study with intensive guidance, and individualized programming to meet each student's needs.

Sec.89 Article 2.3 Increases the availability of opportunity classes for pupils in grades 7-9 through state reimbursements up to $400 for each additional pupil.

Sec.229 Requires the Superintendent of Public Instruction to report to the Legislature by 11/15/83 on the feasibility of studying the characteristics of school dropouts and the costs of requiring continuation schools to increase their data collection.

Educational Finance

ACTION

p.36 Schools must first make more efficient and accountable use of existing resources. States and localities must recognize the need for additional resources, judiciously invested to improve quality.

p.41 States should strengthen programs to provide more equitable resource distribution, especially to schools with limited resources and special needs students.

ROUNDTABLE

pp.61-63 Business should support increased funding for schools only if it is tied to school finance reform and policies for strengthening the teaching profession. Statewide discussions should be organized to develop plans in these two areas.

Educational Technology

CARNEGIE

pp.192-194 Improving instructional software:
(1) Computer companies should set aside funds for software development in collaboration with teachers.
(2) Schools should consider the quality of software available when selecting computer hardware.
(3) A national commission should be appointed by the Secretary of Education to evaluate instructional software.

Teacher training in computers:
(1) Computer companies should provide teacher training.
(2) The Federal government should provide funds for teacher training, for computerized school library services, and for ten regional Technology Resource Centers.

pp.195-197 No school should buy computers before examining goals and setting a policy. The first priority is to teach students about the social impacts of technology; secondly, computer assisted instruction, including bibliographic information retrieval; thirdly, using computers as problem solving tools.

pp.198-199 School districts should develop cable TV. TV networks should set aside prime time hours for educational programs. The Federal government should establish a National Film Library to secure commercial and public television programs for school use.

GOODLAD

p.340 Use microcomputers for instructional management and individual recordkeeping.

NASSP

pp.7-8 Principals should be alert to new information and communication technology that can improve instruction and school management.

PAIDEIA II

pp.40-41 Embraces the use of instructional technology, including video and computer-assisted instruction.

Electives

CARNEGIE

pp.128-130 A carefully selected cluster of electives should be available, essentially in the junior and senior years, to allow students to pursue their own aptitudes and interests. Each student's cluster should be carefully planned to provide advanced study in certain academic subjects, career exploration, or both. With shrinking budgets and student populations, few high schools will be able to offer a full range of electives. Therefore, they must establish networks with the community and specialty schools, or experiment with such ideas as portable classrooms.

GOODLAD

pp.287-288 Beyond the core curriculum, 10% of the secondary student's program should be left to choice for personal talent development. Students should be given "vouchers" of instructional time to, for example, engage a private tutor or enroll in a college class.

PAIDEIA

p.21 "Electives and specialization are . . . wholly inappropriate at the level of basic schooling." The only "elective" in the K-12 core sequence should be choice of second language.

UC

pp.1-2 Four elective units (years) are required for University of California admissions in at least two of the following areas: history, English, advanced mathematics, laboratory science, foreign language, social science, fine arts. Electives should require considerable reading, analytical reasoning, and oral and written expression. Courses with a vocational, service, or recreational bent are, in general, not acceptable.

English Education

ACSA

Basic High School Core: 3 years of English; Extended Academic Core: 4 years of English.

CA MODEL

pp.10-25 Four years required for high school graduation, with following basic course content (Courses are one semester each. Advanced ESL may substitute for two semesters.):

English I: listening skills, oral language skills, academic research skills, reading skills, writing, literary genres, analysis and appreciation of literature, critical thinking skills.

English II: same skills as English I but with emphasis on higher levels of student performance and more complex assignments and materials.

English III: Formal debate, writing, critical analysis of literary selections, use of primary sources in research, a term paper, American literature.

English IV: Mastery of skills listed for English I, participation in a forum, writing of position papers and creative works along various literary models (e.g., essays, sonnets), classical literature.

Electives: Two will be needed to complete the 4 year requirement; to be developed at the local level; should emphasize extensive writing, speaking, and reading. Sample titles: Advanced Placement Composition, Journalism, Shakespeare, Speech I, II.

CARNEGIE

pp.85-97

"The first curriculum priority is language." Schools must help students learn to think critically and communicate effectively in written and spoken English. In the early grades, instruction should be based on the child's natural capacity for language development. Elementary instruction should emphasize reading comprehension, clear writing (including spelling and grammar), ability to organize thought, and oral presentation of ideas. Careful monitoring should be built into the entire program. Before entering high school, every student should be assessed in English language proficiency and deficiencies remedied.

High school students should all improve on writing clarity, reading comprehension, discriminate listening, speaking precision, and critical thinking. Writing should be taught in every class. A freshman basic English course, emphasizing writing, should also be required. "Teaching students to write clearly and effectively should be a central objective of the school." Teachers require time to critique student writing, therefore, basic English classes should be limited to 20 students and no teacher should be assigned to more than two such classes per term.

Speech should be taught in every class, but a one-semester speech course should be required as well. It should include group discussion, formal debate, public speaking, reading literature aloud, and evaluative listening.

A one-year required literature course in high school should focus on writing as a mirror of human experience and on "the power and beauty of the written word."

EQUALITY

pp.7-9 — Reading, writing, and speaking/listening are three of the Basic Academic Competencies essential to college study in all fields. These skills should be developed in every subject.

pp.14-16 — English as a Basic Academic Subject includes responding critically, analytically, and imaginatively to literature; developing skill with the writing process and the use of standard written English; participating in classroom discussion; recognizing intentions, logical fallacies and opinions; speaking persuasively; taking notes; and understanding some basic principles of language.

FEOL

p.5 — "All students in the United States should be able to speak, write, read, and listen to the English language." Skills should include ability to:
- o write clear expository paragrapns;
- o write a research paper;
- o present logical arguments; and
- o form conclusions.

NASSP

p.4 — [Same as Risk]

RISK

p.24-25 — 4 years in high school, equipping students to:
"(a) comprehend, interpret, evaluate, and use what they read;

(b) write well-organized and effective papers;
(c) listen effectively and discuss ideas intelligently; and
(d) know our literary heritage . . . ."

SB 813

Sec.94 — As of 1986-87, 3 years of English in grades 9-12 will be required for high school graduation.

TWENTIETH

p.11 — Elementary students should learn to read, write, speak, and listen in English. High school graduates should possess skills in reasoning; critical analysis; the use of complex ideas; and clear, correct writing. ". . . the Task Force recommends that the federal government clearly state that the most important objective of elementary and secondary education in the United States is the development of literacy in the English language."

UC

p.1 — 4 years of college preparatory English composition and literature are required for UC admission. All courses should emphasize expository writing at some length.

Federal Role

ACTION

p.36 Education is primarily a state and local responsibility but the Federal government should maintain its traditional supportive role in the areas of special needs students, equal opportunity, student financial aid, research and development, and training for critical labor needs.

CARNEGIE

p.179 Fund a National Teacher Service, providing tuition scholarships to the top third of high school students who would teach a minimum of three years in the public schools, especially in math or science.

p.192 The Secretary of Education should appoint a national commission to evaluate computer software for classroom use.

p.194 Federal money should be put toward: teacher training in educational technology; computerized school library services; and the establishment of ten regional Technology Resource Centers.

p.199 Set up a National Film Library to collect and prepare for school use outstanding commercial and public television programs.

p.239 Establish a network of Residential Academies in Science and Mathematics for gifted students.

p.245 Fund ESEA Title I to reach all high risk students.

pp.292-293 The Federal government has three basic roles to play:
(1) gather, analyze, and provide information on American education;
(2) assist the schools in providing high quality education to the disadvantaged and the handicapped; and
(3) provide support to the schools in identified areas of national need, as was done with the National Defense Education Act.

p.295 "A new Federal program, the School Building and Equipment Fund, should be established to provide short-term, low-interest loans to schools for plant rehabilitation and for the purchase of laboratory equipment."

ECONOMIC PROGRESS

The entire report focuses on the Federal leadership and legislative role in educational improvement to meet our urgent economic needs. Recommendations include:
(1) foster both general technological literacy and advanced expertise;
(2) form a comprehensive plan including schools, colleges, and adult retraining;
(3) encourage partnerships, local investment in education, and local programs;
(4) emphasize talent development in women and minorities;
(5) enlist top scientific minds;
(6) value teachers; and
(7) build a sustained Federal role.
For further details, please see the text in Part II.

p.8 Federal aid should ". . . provide incentives to leverage and encourage state, local, and private investment in education."

MERIT PAY

p.6 Evaluate current merit pay experiments and disseminate that information.

p.7 Assist colleges in improving teacher education programs and in forming partnerships with K-12 schools.

p.7 Expand summer institutes and inservice opportunities now part of science-math-foreign language bills before Congress.

p.8 Fund scholarships for top high school graduates to enter teaching. Two years of teaching would repay one year of financial assistance.

p.8 Fund a fellowship for talented teachers, providing those selected with one year's salary and study leave in return for two additional years spent teaching at the same school.

p.8 Fund research on teacher performance evaluation criteria and models.

RISK

p.32-33 [Similar to Action]

TWENTIETH

This entire report focuses on the Federal role in providing quality education. It calls for the Federal government to provide states and localities with incentives to improve teaching quality and proficiency in English, foreign languages, mathematics, and science. It also recommends that the Federal government continue its

commitment to equal educational opportunity through assistance programs for the poor, non-English-speaking, and the handicapped. The Federal government should also play a role in educational research and the education of failing students. For details, please see the text in Part II.

pp.15-16 Categorical aid programs for the poor and handicapped should be continued. When such programs are required by the Federal government they should be paid for by the Federal government. "Impact" aid should be given to districts overburdened with a significant population of immigrant children and should also be targeted for depressed localities as well as those already making strong efforts toward educational improvement.

Gifted

ACTION

p.40 Identify gifted students early. Improve and expand instruction for them.

CARNEGIE

pp.236-239 The gifted should be allowed to move ahead through such options as independent study, credit by examination, the International Baccalaureate curriculum, and/or special schools, perhaps regional or state schools. In large urban areas, magnet schools in the arts or science should be developed. Also a network of Residential Academies in Science and Mathematics should be established from Federal funds.

pp.272-273 Business and industry can provide instructional enrichment to gifted students.

PAIDEIA II

pp.34-36 Eliminate all special courses for the gifted. The Paideia curriculum will challenge them sufficiently.

ROUNDTABLE

pp.42-44 Establish, with private industry support, local and regional math/science high schools for the most able.

SB 813

Sec.112 Chapter 6 Provides startup funds in 1984-85 for locally or regionally developed specialized high schools, particularly for training in high technology and in the performing arts. These schools shall develop model curricula. They may hire noncredentialed persons to teach.

Goals of Schooling

ACSA

"The primary purpose of schooling is the development and transmission of knowledge, skills, and attitudes. All students should receive a balanced curriculum into whose content is integrated the following skills: communication, computing, decision making, problem solving, critical thinking, study, interpersonal, salable, and aesthetic."

ACTION

p.18 "It is our conviction that sustained economic growth is essential. And it is our judgment that a high general level of education is perhaps the most important key to economic growth."

p.39 States and localities, including educators, business, and labor leaders, should identify skills needed for effective employment and citizenship. These skills should be widely disseminated.

p.46 "We know that education has deeper purposes than merely to prepare people for jobs . . . But if preparation for work is not the only aim of education it is nonetheless a very important aim. And surely education for economic growth is a worthwhile goal around which to organize our efforts and to rally the American people in the cause of improving the nation's schools."

pp.48-50 A list of basic skills and competencies for productive employment is provided.

CARNEGIE

p.63 "We recommend that every high school have clearly stated goals and purposes that are understood and supported by the students, teachers, administrators, and parents of the institution."

pp.66-67 "We propose four essential goals and the ways these goals can be achieved.

"First, the high school should help all students develop the capacity to think critically and communicate effectively through a mastery of language.

"Second, the high school should help all students learn about themselves, the human heritage, and the interdependent world in which they live through a core curriculum based upon consequential human experiences common to all people.

"Third, the high school should prepare all students for work and further education through a program of electives

that develop individual aptitudes and interests.
"Fourth, the high school should help all students fulfill their social and civic obligations through school and community service."

p.104 Learn about social memberships and how groups and institutions shape our lives.

p.113 Develop lifetime physical fitness.

p.117 ". . . ability to bring together information from ideas across the disciplines, organize their thoughts, reach conclusions, and, in the end, use knowledge wisely."

GOODLAD

pp.51-56 Presents a suggested list of academic, vocational, social/civic, and personal goal statements culled from A Study of Schooling.

PAIDEIA

p.10 "The ultimate goal of the educational process is to help human beings become educated persons. Schooling is the preparatory stage. . . ."

pp.16-18, 73-75 The objectives of democratic education are to enable students ". . . to earn a living in an intelligent and responsible fashion, to function as intelligent and responsible citizens, and to make both of these things serve the purpose of leading intelligent and responsible lives—to enjoy as fully as possible all the goods that make a human life as good as it can be."

SB 813

Sec.2 "The Legislature believes that our schools should:
(a) Provide a variety of instructional styles and classroom settings which accommodate the differing ways that research has shown children learn.
(b) Maintain orderly and efficient school campuses which encourage positive attitudes among students and high morale and high quality teaching among teachers.
(c) Ensure that the specialized needs of identified groups of students are met by the effective use of categorical aid funding.
(d) Provide appropriate and meaningful instruction to meet the variety of future and career goals of students.
(e) Assure that pupils achieve academic proficiency in the essential areas of skill and knowledge.
(f) Identify and respond to the individual educational needs of pupils, each of whom is a unique human being who can ultimately become a responsible and contributing member of society.
(g) Develop each pupil's sense of respect for self and others, personal and social responsibility, and critical thinking.
(h) Involve parents and community members in a broad

range of activities at each school, recognizing the vital role parental attitudes and values have in their children's education."

TWENTIETH

pp.3-4 ". . . schools across the nation must at a minimum provide the same core components to all students. These components are the basic skills of reading, writing, and calculating; technical capability in computers; training in science and foreign languages; and knowledge of civics, or what Aristotle called the education of the citizenry in the spirit of the polity." But the schools must also go further in providing the large numbers of skilled persons needed by our complex economy, in fostering the habits of mind needed for life in a polyethnic democracy, and in imparting a love of learning.

p.11 ". . . the Task Force recommends that the Federal government clearly state that the most important objective of elementary and secondary education in the United States is the development of literacy in the English language."

Graduate Surveys

CARNEGIE

p.135 Every high school should conduct periodic surveys of its graduates. The national High School And Beyond survey data should be expanded to cover every high school and that information should be shared with the schools.

Grouping for Instruction

CARNEGIE

p.126 Abolish current three track system in high school, replacing it with a core program plus electives.

GOODLAD

pp.296-297 Eliminate all tracking and ability grouping. Handle student variability through improved teaching in multi-age heterogeneous groups.

pp.310-11 Use a House Plan or "School-within-a-School" at the secondary level, vertically grouped.

PAIDEIA

p.5 [Similar to Goodlad]

PAIDEIA II

p.14 Both "age grouping" and "achievement grouping" should be used, as appropriate.

RISK

p.30 Student placement and grouping should be based on progress and instructional need, not strictly on age.

Homework

FEOL

p.8 Schools, parents, and students should review district homework policy. An hour for elementary students and two or more hours for high school students may be beneficial but these issues must be considered:
(1) If some homes are inappropriate places to study, will the school provide or arrange study sites?
(2) Homework can consist of learnings other than textbook assignments, e.g., creative writing, community projects, crafts, athletics.
(3) If teachers are to have time to correct written homework, class size may have to be reduced or aide assistance provided.

NASSP

pp.4, 7 "Homework is useful when properly assigned and reviewed." For college-bound students: 20-30 minutes per academic subject; about half that for job-bound students.

PAIDEIA

p.82 Homework should be given in increasing amounts from grades 1-12, including home projects in the arts and sciences.

RISK

p.29 High school students should be assigned far more homework.

Incentives

ACTION

p.37 Financial incentives should be offered to teachers, based on responsibility or for filling critical shortage areas. Extraordinary rewards should be created for extraordinary teachers. States, communities, business, and the media should establish new forms of recognition for teachers, e.g., special scholarships, financial awards, and tributes.

CARNEGIE		
	p.160	Every school should establish a Teacher Excellence Fund--competitive mini-grants for instructional development.
	p.164	Proposes that every college, school district, and state recognize an outstanding public school teacher every year, and provide a cash award.
	pp.273-275	Business and industry should support teaching excellence through grants, fellowships, and special recognition.
ECONOMIC PROGRESS		
	p.7	"Recognize the dignity and worth of school and college teachers."
FEOL		
	pp.3-4	Encourage teacher retention through prospects of year round employment; rewards and recognition; student loan forgiveness; a safe, orderly teaching environment; more control over instructional matters; and professional respect.
ROUNDTABLE		
	pp.40-42	Develop dual career options to prevent prospective and practicing teachers from leaving the profession for financial reasons. Create business fellowships to recognize outstanding math and science teachers and to supplement their salaries. Fellowship winners would be required to assist other teachers.
SB 813		
	Sec. 43 Chapter 3.3	The Classroom Teacher Instructional Improvement Program provides grants to individual classroom teachers or groups to improve the quality of instruction. Grant proposals are to be reviewed at district level by a committee mainly of teachers, with final awards made by the district governing board. Funding is not to exceed $2,000 per year per teacher. District entitlement for funds will not exceed $2,000 multiplied by 5% of the district's eligible teachers.
	Sec.110 Article 2.5	Establishes Educational Improvement Incentive Program to motivate teachers and school site administrators to work toward increasing high school student performance in the California Assessment Program. Change in composite school rating for Grade 12 will earn a school up to $400 per pupil. District participation in the program is voluntary. Use of a school's incentive award will be determined by the school site council. Begins 1984-85.

Instructional Materials

ACTION
p.38 — Upgraded textbooks and instructional technologies should be used.

CARNEGIE
p.143 — Most textbooks are oversimplified. Make greater use of primary sources.

Textbook selection authority should be transferred from the state to the local level, giving teachers a far greater voice.

FEOL
p.6 — Raise reading levels and challenge of textbooks.

RISK
p.28 — Textbooks and instructional materials should be revised, updated, and made more rigorous. Scholars, professionals, and teachers should work with publishers to accomplish this. States and school districts should evaluate materials for clear and challenging content and should require publishers to furnish evaluation data. Funds should be set aside to develop instructional materials in "thin-market" areas, such as for the learning disabled or gifted.

ROUNDTABLE
pp.21-22 — Extend California's K-8 textbook adoption process to grades 9-12.

SB 813
Sec.114-117 — Raises state instructional materials funding to $21.18 per pupil in the elementary grades and extends materials funding to grades 9-12 at $14.41 per pupil.

Instructional Time

ACTION
p.38 — Increase "the duration and intensity of academic learning time" through greater emphasis on content, better teaching methods and materials, more efficient use of time.

CARNEGIE
p.232 — ". . .we recommend that the class schedule be more flexibly arranged to permit larger blocks of time,

especially in courses such as laboratory science, foreign language, and creative writing."

FEOL

p.6 [Similar to Goodlad]

GOODLAD

p.282 Schools should study their time allocation in relation to their preferred curriculum allocations. If more time is desired, efficiency in time use may be worked on. Only if that isn't adequate should the school day be increased. Increasing hours is counterproductive if the time is not well used.

NASSP

p.7 "Better use of time can benefit student achievement as well as develop a more serious attitude toward the place of classroom work in school."

RISK

pp.29-30 "We recommend that significantly more time be devoted to learning the New Basics. This will require more effective use of the existing school day, a longer school day, or a lengthened school year."

Learning time should "be expanded through better class management and organization of the school day." If necessary, more time should be found for groups with special needs such as slow learners and the gifted.

Master Teachers

FEOL

p.3 Master teachers should possess an advanced degree, work a 12-month year, and team with colleges to train new teachers.

GOODLAD

p.302 Employ head teachers who have highly successful teaching experience and a doctorate. This post would carry higher status and salary. Head teachers would teach part-time but also provide instructional assistance, modeling, and training for others. They would be more effective in the instructional leadership role than a principal could be.

RISK

p.31 Should be involved in designing teacher preparation programs and in the supervision of probationary teachers.

SB 813

Sec.28 Article 4 Establishes the California Mentor Teacher Program to encourage teacher retention and promote excellence. The

State Board of Education is to prepare program guidelines by by 1/1/84.

These are the basic qualifications for a mentor teacher: (1) is a credentialed classroom teacher with permanent status; (2) has substantial recent classroom experience; and (3) has demonstrated exemplary teaching ability, e.g., effective communications skills, subject matter knowledge, and mastery of a range of teaching strategies. Of a district's teachers who meet these requirements, up to 5% may be designated mentor teachers.

Nominations will be made by a committee of classroom teachers and administrators (others if desired) with a majority of teachers. The selection process will include classroom observation. Final designation will be made by the district's governing board.

The mentor designation may last no more than 3 years, but review and renomination are possible.

Each mentor will receive at least $4,000 per year over regular salary. The mentor may choose to take some or all of the stipend in professional growth activities or release time. State funds shall pay stipends and program costs.

A mentor shall average no less than 60% time in direct instruction of pupils. The mentor's prime supplementary duty is to assist and guide new teachers. Mentors may also assist experienced teachers, provide staff development, or develop special curriculum. They may not participate in teacher evaluation.

TWENTIETH

pp.9-11

"We propose the establishment of a national Master Teachers Program, funded by the Federal government, that recognizes and rewards teaching excellence . . . . the best teachers from every state would be awarded the accolade of Master Teacher and a monetary grant—say $40,000 a year--above that of the ceiling for teachers' salaries for a period of five years." Selection criteria would be established by Federal agencies such as the National Endowment for the Humanities and selections made by them after a canvass of local personnel. At least one Master Teacher should be selected per Congressional district, preferably more.

The first year of the five year grant would be devoted to professional study, with expenses paid. The next four years would be spent teaching and, perhaps, in assisting other teachers.

Mathematics Education

ACSA

Basic High School Core: 2 years (computation, problem solving, and personal finance); Extended Academic Core: 3-4 years (algebra I and II, geometry, trigonometry, calculus).

CA MODEL

pp.31-35, 73-79 — 3 years required for high school graduation. Algebra I and geometry required for all. The extra year may be met with a two-year Algebra I course, pre-algebra, Algebra II, consumer mathematics, probability and statistics, or advanced courses. Prerequisites for all high school mathematics courses include: arithmetic; fractions, decimals, and percent; creation of mathematical statements from verbal problems; rounding, approximation, estimation; graphs and tables; computation of perimeters, areas, volumes.

CARNEGIE

pp.107-109 — The program must be sequential. Elementary grades should cover arithmetic fundamentals and problem solving. Math skills of all students should be assessed the year before high school. Summer school and assistance in high school should be provided for those who need it. All high schools should require a 2-year math sequence to develop in students the ability to think quantitatively and to solve problems. Students planning on vocations that require it should study calculus.

ECONOMIC PROGRESS

p.4 — The Federal government should encourage both general mathematical and scientific literacy and advanced training for the most talented.

EQUALITY

p.9 — The following features of mathematics are considered Basic Academic Competencies: reasonable accuracy in computation; metric and traditional measurement; estimation and approximation; use of integers, fractions, decimals, ratios, percentages, proportions, roots and powers, algebra, geometry; problem solving in mathematical terms including selection of an appropriate approach (e.g., mental calculation, a computer); and elementary probability and statistics.

pp.19-22 — Mathematics as a Basic Academic Subject entails proficiency in the competencies listed above plus computing (including programming), statistics, algebra,

		geometry, functions. College entrants expecting to major in science and engineering need a greater proficiency in those areas.
FEOL		
	p.5	All students need to be able to: perform arithmetic, solve math problems common to adult living, use algebra and geometry. College-bound students, in addition, should study advanced algebra, functions, calculus, statistics, and probability.
NASSP		
	p.4	3 years for college-bound; 2 years for job-bound.
PAIDEIA		
	p.24	"Instruction in mathematics, beginning with simple arithmetic in the first grade, should rise at least to one year of calculus. It should be integrated from the very beginning with instruction in the use of calculators and lead subsequently to at least introductory instruction in the use of, and programming for, computers."
RISK		
	pp.24-25	3 years in high school to "equip graduates to: (a) understand geometric and algebraic concepts; (b) understand elementary probability and statistics; (c) apply mathematics in everyday situations; and (d) estimate, approximate, measure, and test the accuracy of their calculations." New mathematics curricula need to be developed for the non-college-bound.
ROUNDTABLE		
	pp.27-50	Upgrade technical education in California through: (1) business advocacy; (2) formation of a state-level planning body; (3) business/higher education coalitions; (4) company programs to relieve the immediate math/science crisis; (5) special math/science schools; and (6) improvement of math/science teachers through recruitment and training of high quality candidates, professional development, higher pay and an 11-month work year, and tougher credentialing.
SB 813		
	Sec.94	2 years in grades 9-12 will be required for graduation as of 1986-87.
TWENTIETH		
	p.14	[Similar to Economic Progress]
UC		
	p.1	3 units (years) required for UC admission: elementary algebra, geometry, and intermediate algebra. Junior high

courses accepted by the high school as equivalent will serve.

Advanced mathematics courses fulfilling the "electives" requirement would include trigonometry, precalculus, and computer science. Courses in arithmetic, shop, consumer, or business math are not acceptable.

Merit Pay

FEOL

p.2 — Although past merit pay efforts have failed, the idea is attractive and new methods should be explored.

MERIT PAY

pp.6-7 — Encourage experiments in performance-based pay, to be evaluated and disseminated by the Department of Education. Experiments should have these features:

- o teacher, administrator, and community involvement in planning;
- o criteria that grant reward only for outstanding teaching performance, not for other reasons;
- o periodic review and self-improvement incentives for all participating teachers;
- o continuous program review and refinement; and
- o attention to "competent" as well as "superior" teachers.

NASSP

pp.1,3-4 — Design a new generation of incentive pay plans whose aim is the improvement of instruction. This presumes a competitive base pay scale for teachers. Each plan should be:

- o financially sound—no artificial budget ceilings or quotas. Incentives must be large enough to be motivating and attainable by most staff;
- o flexible;
- o voluntary;
- o professionally administered with fair, valid, and regular evaluation procedures;
- o supported by teachers, administrators, community, and central staff;
- o coordinated through clear system-wide procedures and purposes;
- o supportive of collegial relations, not competition for rewards;
- o output oriented; and
- o institutionalized, not provisional or occasional.

Parents

ACTION
p.38 — Should be better involved in the education process. "We have in mind 'contracts' between parents, students, and schools to improve student performance—for example, programs that train parents in ways to help their children learn and study."

CARNEGIE
p.284 — Every high school should have a Parent-Teacher-Student Advisory Council and a parent volunteer program.

FEOL
p.6 — Should be involved in the development of, and support for, a strong code of student discipline, attendance, and completion of school work.

PAIDEIA II
p.24 — Must monitor homework and support principal and teachers in enforcing rules of good behavior.

RISK
p.35 — Must fight for quality education and be actively involved in monitoring, encouraging, and serving as a role model for learning and study.

ROUNDTABLE
pp.55-56 — Companies should release parent-employees to volunteer in the schools.

Part-Time Teachers

CARNEGIE
pp.183-184 — Outstanding professionals should be recruited to fill teacher shortage areas and to provide enrichment through lectureship programs. Districts should also enter into partnerships with business whereby two persons could share a teaching position and a non-school job. Arrangements should also be made to let career teachers step in and out of the profession. Teacher certification laws should be modified to meet these proposals.

GOODLAD
pp.307-308 — Outside the core elementary school faculty, part-time teachers or aides might be desirable to team with full-time staff.

ROUNDTABLE
pp.36-37 [Similar to Carnegie]

Physical Education and Health

ACSA

2 years required in the Basic High School Core, to include health, first aid, nutrition, CPR, life sports, and family life.

CA MODEL
p.2 2 years required in high school.

CARNEGIE
pp.112-113 All students should learn about the human body and lifetime fitness.

PAIDEIA
pp. 22, 33 12 years required.

SB 813
Sec.94 2 years of physical education required for high school graduation.

Preschool

FEOL
p.6 Maintain a strong preschool program.

PAIDEIA
p.38 1 to 3 years of preschool tutelage for children whose environment doesn't adequately prepare them for school. Provided at public expense to those who can't afford it.

Principals

ACTION
p.40 Each principal should be "acknowledged as the school's leader and the manager of its instructional program. The principal should be freed from distractions; encouraged to give priority to improving classroom instruction; given sufficient discretion over personnel and financial planning; and put squarely in charge of maintaining the school's morale, discipline, and academic quality."

Principals' pay, like teachers', should be linked to responsibilities and performance.

States should improve standards and programs for recruiting, training, and monitoring principals.

All administrators should, with assistance from business, expand and improve their use of effective management techniques.

CARNEGIE

pp.223-224 Training and selection should be improved. Principals should have the same college training experience as teachers through the associate teacher phase described in Chapter 10. Only after two years of teaching experience should a candidate be admitted to an administrative credential program. After completion of that program, graduates should serve a one year "internship" under a successful principal, making them eligible for employment as an assistant principal. Two years must be spent in that position before appointment to a full principalship.

p.226 "We recommend that principals, acting in consultation with their staffs, be given responsibility for the final selection of teachers for their schools."

p.226 ". . . the school principal and staff should have authority to allocate funds within guidelines set by the district office." Each high school principal should also receive a Discretionary School Improvement Fund for program or staff development.

p.227 ". . . we suggest that a network of Academies for Principals be established to provide for the continuing education of school administrators."

p.228 Outstanding principals should be given special recognition.

p.278 Business should facilitate, through funding and/or provision of facilities, leadership training for principals.

GOODLAD

pp.276-277, 306-307 Principals need training in group leadership and planning skills if they are to manage self-renewing schools. They must focus not just on instructional improvement but on leadership for solving school-wide problems. As a first order of business, there should be a continuous search for potential leaders within a district and study leaves offered to those being groomed for leadership.

p.278	The principal should manage a school-based budget, with staff input on staffing patterns and materials expenditures.
MERIT PAY	
p.8	"School districts should regularly and carefully evaluate administrative personnel."
NASSP	
p.1	"The principal's central responsibility is to the quality of the educational program. While an entire range of expectations falls upon the principal, time must be set aside to insure that students are receiving instruction of the highest quality considering the resources at hand. To achieve this . . . states and school systems must reduce red tape and operate with a decentralized, debureaucraticized philosophy of management."
	Principals must assert a leadership role in state and local planning for school improvement.
PAIDEIA	
pp.63-65	The principal should first be "a notably competent and dedicated teacher," who functions as the principal educator leading a learning community. It is desirable, but not necessary, that the principal engage in teaching from time to time.
	To be effective the principal needs the authority, with due controls, to (1) hire, fire, assign, and promote teachers, and (2) enforce standards of decorum and good behavior.
RISK	
p.32	With the aid of school boards, principals and superintendents must develop their leadership roles in gaining support for reform and in goal setting, as distinct from management and supervisory skills.
SB 813	
Sec.34-41 Article 3	Provides funds for administrator training and evaluation programs, emphasizing clinical supervision and instructional leadership, to be operated in conjunction with the TEC Centers.
Sec.42 Chapter 3.15	Funds pilot projects for recruiting and training school administrators.

Remedial Instruction

ACTION

p.39 — Develop a carefully designed program tied to periodic student testing.

CARNEGIE

pp.88, 108 — Every student's English language and mathematics achievement should be assessed the year before high school. Students needing additional assistance should receive it in a special summer term and throughout high school.

pp.245-246 — Dropout prevention should start with academic skill building in the elementary grades. Federally-supported remedial programs (ESEA Title I) should be funded to reach all students who need it. In the upper grades, alternative schools for disaffected students might be established. Also important is fostering closer student-teacher relationships through mentoring or tutoring.

FEOL

p.6 — The raising of standards must not lead to denial of equal opportunity. Supplementary programs must be continued.

NASSP

p.4 — ". . . remedial courses in reading, writing, and mathematics should be required for those students testing significantly below grade level."

PAIDEIA

pp.44-45 — Remedial help must be available constantly to assist those students who need extra time and/or assistance to master the basic program.

PAIDEIA II

pp.13-14 — Differences in native endowment and background should be accommodated by varying amounts of preschool tutoring and by supplementary instruction and coaching for those who fall behind.

TWENTIETH

p.20 — Students who repeatedly fail to learn—no more than 5% of the school population--should be given special Federal fellowships to encourage districts to establish small, individualized academies for them.

School Administration

CARNEGIE

p.226 ". . . the school principal and staff should have authority to allocate funds within guidelines set by the district office." Each high school principal should also receive a Discretionary School Improvement Fund for program or staff development.

GOODLAD

pp.274-276 Move the balance of decision making power to the school site and increase parent involvement. "What I am proposing is genuine decentralization of authority and responsibility to the local school within a framework designed to assure school-to-school equity and a measure of accountability . . . The school must become largely self-directing" and self-renewing. The school is the unit for change.

p.278 Use school-based budgeting, with staff input on staffing patterns and materials expenditures.

Each school should have a policy and planning group of teachers, students, community, and district office personnel, chaired by the principal.

School Day and Year

ACTION

p.38 While efficient use of existing time is the first priority, consideration should be given to lengthening the school day and year. Options outside school time should also be used, e.g., business sponsored summer or after-school programs.

CARNEGIE

p.170 A 2-week Teacher Professional Development Term should be added on to the school year, with compensation.

p.232 ". . . lengthening the school year is not a top priority for school reform. The urgent need is not more time but better use of time."

FEOL

pp.7-8 Provide opportunities for additional study up to 220 days per year, e.g., computer camps, and summer schools for the handicapped and gifted.

GOODLAD

p.279 Teacher planning days should be added on top of the 180 instructional days. To allow teachers more planning time, a 20 hour/week teaching load might be instituted for high school teachers.

NASSP

p.7 School day: approximately 6 hours of student contact time, plus after school assistance. Seniors should not be allowed a shorter day. Teachers should work approximately 7-1/2 hours per day, with time before and after school to assist individuals and advise activities.

School year: 180-185 days for students, used efficiently. Lengthy testing or orientation programs should be added on. Teachers should be paid for 195-200 days, extra time going to planning and curriculum development.

ROUNDTABLE

pp.25-26 Change the California Education Code to require a secondary school day of 300 minutes and 360 minutes one year later if district resources allow. Make the school year 180 full instructional days.

RISK

p.29 "School districts and State legislatures should strongly consider 7-hour school days, as well as a 200- to 220-day school year."

SB 813

Sec.78-79 High school seniors shall be enrolled in the equivalent of at least 5 courses per semester. A senior who will meet all requirements and is enrolled in work experience may apply to attend less than the minimum day of 180 minutes.

Sec.80 Article 8 Offers $35 per unit of ADA to districts that provide 180 or more days of instruction in 1984-85. Apportions $20 per unit of ADA in grades K-8 ($40 in grades 9-12) for meeting or exceeding specified instructional time quotas, leading toward, in 1986-87, these minutes/year figures: Kindergarten--36,000, Grades 1-3--50,400; grades 4-8--54,000, grades 9-12--64,800. Penalizes districts that offer less instructional time than in 1982-83.

School Districts

ACTION

p.35 Every school district should, with consultation, develop a school improvement plan like that recommended for the state emphasizing education for jobs and growth and

setting specific, measurable goals and timelines.

CARNEGIE

p.285 The school board's fundamental responsibilities are to:
(1) obtain adequate financial support and distribute it equitably and with minimal restrictions to the schools;
(2) select the best qualified personnel, starting with the superintendent; and
(3) build a bridge between the schools and the agencies that impact it (e.g., state and local governments), balancing the needs of all.

GOODLAD

pp.274-275 The state should hold school districts accountable. The district should be responsible for individual schools and their personnel.

SB 813

Sec.44 Chapter 3.3 Supports innovative local experiments to improve efficiency of school district operations, devise incentives for service in high-demand areas, or improve on-the-job training and evaluation.

School Size

CARNEGIE

pp.234-235 Research indicates that small schools provide a better social environment, yet big schools can provide greater curriculum variety. Small schools should expand their offerings, for example through off-campus programs or part-time teachers. Large schools should organize themselves into smaller units: schools-within-schools.

GOODLAD

pp.310-311 Break up larger secondary schools into self-contained schools-within-schools or "houses." Organize vertically so that a student stays in one house throughout school. Allow for multi-age grouping and mastery learning.

pp.328-331, 338 In Goodlad's restructured school system, primary and elementary schools would consist of no more than 4 nongraded units or houses of 100 pupils each; secondary houses might contain 150-160 students. Total school size should not exceed 600 students in a secondary school or 300 in the other schools.

Science Education

ACSA

Basic High School Core: 2 years (life, physical, or computer or electronics); Extended Academic Core: 2-3 years (biology, chemistry, physics, zoology, physiology).

CA MODEL

pp.36-43 "A balanced core of 2 years of science for all [high school] students consists of one year of physical and earth science and one year of life science taught in a science-technology-society context."

Science I (1 year): Emphasis on scientific method, basic concepts of physical and earth science, science and society, computers. Units on: matter, energy, kinetics, space science - astronomy, geology and natural resources, meteorology.

Science II (1 year): Emphasis on basic life science concepts, interdependence, technological advancement, scientific method. Units on: living things, plants, protists, animals, human beings, ecosystems.

CARNEGIE

pp.106-107 Provide a required 2-year science sequence focusing on science processes and uses and on the patterns and interactions of the natural world. Basic courses in the biological and physical sciences.

pp.110-111 All students should take a 1-semester course in technology: "The history of man's use of tools, how science and technology have been joined, and the ethical and social issues technology has raised."

ECONOMIC PROGRESS

p.4 The Federal government should encourage both general mathematical and scientific literacy and advanced training for the most talented.

EQUALITY

pp.22-24 College entrants should have a grounding in at least one science including laboratory and field work, scientific methods, mathematical applications (data analysis and interpretation, quantitative understanding) and detailed knowledge of concepts, principles, and basic facts of that science. Grasp of the fundamentals of life and physical sciences is also necessary. Students planning to major in science will need more extensive mathematical proficiency.

FEOL

p.5 — Science (biology, chemistry, and physics) should be available to all students, beginning with natural science instruction in the elementary grades.

NASSP

p.4 — 3 years for college-bound students; 2 years for the job-bound.

RISK

pp.24-25 — 3 years in high school, introducing students to:
"(a) the concepts, laws, and processes of the physical and biological sciences;
(b) the methods of scientific inquiry and reasoning;
(c) the application of scientific knowledge to everyday life; and
(d) the social and environmental implications of scientific and technological development."

ROUNDTABLE

pp.27-50 — Upgrade technical education in California through:
(1) business advocacy;
(2) formation of a state-level planning body;
(3) business/higher education coalitions;
(4) company programs to relieve the immediate math/science crisis;
(5) special math/science schools; and
(6) improvement of math/science teachers through recruitment and training of high quality candidates, professional development, higher pay and an 11-month work year, and tougher credentialing.

SB 813

Sec.94 — Requires, as of 1986-87, 2 years of science (biological and physical) in grades 9-12.

TWENTIETH

p.14 — [Similar to Economic Progress]

UC

p.1 — 1 unit of laboratory science in grades 10-12 required for UC admission.

Second Language Instruction

ACSA

Extended Academic Core: calls for 2-4 years of foreign language.

CA MODEL

pp.26-30 — 2 years in the same language required for high school graduation, but instruction prior to grade 9 may be counted if a proficiency test is passed. Basic course content:
Foreign language I (1 year): phonology, morphology, syntax, listening, speaking, writing, cultural appreciation. Emphasis is on conversational skills, cultural appreciation, and the importance of language.
Foreign Language II (1 year) similar content and emphasis as Foreign Language I, but with more writing practice.

CARNEGIE

p.98 — All students should become familiar with the language of another culture. Ideally, instruction should begin in the elementary grades and 2 years of foreign language should be required of all high school students.

p.100 — ". . . it does seem reasonable for all schools in the United States to offer Spanish."

ECONOMIC PROGRESS

p.4 — Encourage foreign language proficiency in the most talented.

EQUALITY

pp.27-30 — All college entrants should have these foreign language skills--ability to: maintain a simple conversation, be understood by a native speaker, ask and answer questions, read a simple paragraph, write a short paragraph, and deal with everyday situations in that culture. Students who are planning college language study need more sophistication in these skills. Study of a classical language should emphasize basic reading comprehension, knowledge of culture and, for students planning advanced study, some ability to translate.

NASSP

p.4 — [Same as Risk]

PAIDEIA II

p.2 — All students should be required to take 4-6 years of a second language, the choice of language being left to the student.

RISK

pp.24,26 — "2 years of foreign language in high school are strongly recommended for the college-bound in addition to those taken earlier. . . . Achieving proficiency in a foreign language should, therefore, be started in the elementary grades."

SB 813

Sec.94 — As of 1986-87, 1 year of fine arts or foreign language in grades 9-12 will be required for graduation.

TWENTIETH

pp.12-13 — "This Task Force wants every American public school student to have the opportunity to acquire proficiency in a second language." The Federal government can assist in this through a matching grant program to train language teachers.

UC

p.1 — 2 years in the same language are required for UC admission. Courses should include grammar, vocabulary, reading, comprehension, and emphasis on development of oral and aural skills. Junior high coursework accepted by the high school as equivalent will be counted.

Social Studies

ACSA

Basic High School Core: 3 years (U.S. history and government, economics, world cultures and geography); Extended Academic Core: 3 years (history, geography, economics, other social sciences, futures)

CA MODEL

pp.44-58 — 3 years required for high school graduation:

World Civilizations: History, Geography, and Culture (one year): In-depth study of European culture, due to its significance to the United States, and non-Western cultures for comparison.

United States: Ideals, Institutions and Traditions (grade 11): Emphasis on significant events, ideas, documents, and people.

Individual Rights and Civic Responsibilities (grade 12): Part 1: Political, Legal, and Ethical Perspectives--citizenship responsibility, democratic values, American government structure and principles. Part 2: Economics.

CARNEGIE

pp.101-102 — Basic knowledge of U. S. History should be covered in K-8 grades. High school study should add depth, emphasizing "the people, ideas, and issues that have shaped the nation." A 1 year course should be required. Primary sources should be used.

p.102 — 1 year required course in Western Civilization.

p.103 A 1 semester required course--in-depth study of one non-Western nation.

pp.104-106 A required 1 year course in American government, including an introduction to classic political thought and a study of how our government works today.

pp.209-210 Every high school student should complete a service requirement involving volunteer work in the community or at school spanning his or her 4 years of school and earning 1 Carnegie unit of credit.

EQUALITY

pp.25-27 College entrants will need basic knowledge of: major political and economic institutions; social, cultural, and political history; major trends in the contemporary world; the content, concepts, and methods of the social sciences; various forms of data, techniques of quantitative and nonquantitative analysis; data interpretation. More specifically, they will need a grounding in world history, geography, and cultures (including chronology and current issues) and United States history, emphasizing chronology, change, and international impact.

FEOL

p.5 World history and U.S. history and government (or citizenship) should be taught K-12.

NASSP

p.4 [Same as Risk]

PAIDEIA

p.25 "Preparation for the formal study of history should begin in the early grades by story telling and biographical narratives but, when formal study begins, it should be sequential and systematic, combining a narration of events with knowledge of social, political, and economic institutions and diverse phases of cultural development."

PAIDEIA II

p.46 Knowledgeable and effective citizenship is one of the three educational objectives of the Paideia Proposal.

Specifically, in their seminar programs, students should read and discuss the Declaration of Independence, the Constitution, the Federalist Papers, the Gettysburg Address, and de Tocqueville's Democracy in America.

RISK

pp.24-26 3 years in high school to:

"(a) enable students to fix their places and possibilities within the larger social and cultural structure;

(b) understand the broad sweep of both ancient and contemporary ideas that have shaped our world;
(c) understand the fundamentals of how our economic system works and our political system functions; and
(d) grasp the difference between free and repressive societies."

ROUNDTABLE

pp.17-18 The State Department of Education should develop models for "community service" as a graduation requirement that districts might adopt.

SB 813

Sec.94 As of 1986-87, 3 years of social studies in grades 9-12 (including U.S. history and geography; world history, culture, and geography; and American government, civics, and economics) will be required for graduation.

UC

p.1 1 year of U.S. history or one semester each of U.S. history and American government will be required for UC admission.

p.2 Social Science courses intended to meet the "elective" requirement for UC admissions must prepare students for lower division university coursework. Courses of an applied, service, or vocational character are not acceptable.

Special Education

ACTION

p.41 States and school districts should ". . . improve programs for identifying and educating handicapped children, specifically including them in [their] goals of education for jobs and economic growth."

CA MODEL

p.3 "The requirements of this model are intended to be met by all students; for students with exceptional needs, the model will provide a goal in the development of the individual education plan (IEP) appropriate to the needs of each student."

PAIDEIA II

p.34 Special education for learning disabled should be retained. Special courses for gifted should be abandoned because the Paideia curriculum will make them unnecessary.

TWENTIETH

p.15 Categorical aid programs for the poor and the handicapped should be continued.

Staff Development

CARNEGIE

pp.170-171 A 2-week Teacher Professional Development Term should be added on to the school year, with compensation, to provide time for study and planning. The term should be planned largely by the teachers themselves.

Every 5 years teachers should be eligible to receive a special contract with extra pay to support a Summer Study Term, based on a teacher-prepared plan approved by a peer panel and administrators.

Each school should establish a Teacher Travel Fund, based on competitive application.

pp.260-263 Colleges should take an active role in the continuing education of high school teachers.

MERIT PAY

p.7 "School districts should devote at least 3% of their budget to faculty growth and development" and "institute a system of sabbatical leaves for educators."

p.7 "The Federal Government should inaugurate an expansion of the summer institutes and other inservice training opportunities for educators that are now part of the science-math-foreign language bills pending in the Senate and passed by the House."

p.8 The Federal government should establish a fellowship program for outstanding teachers to begin in 1985. Selected teachers would receive one year's salary and study leave.

SB 813

Sec.33 Article 2 Expands local staff development through the teacher education and computer (TEC) centers, emphasizing math, science, technology, and other areas of teacher shortage. The TEC centers shall work in cooperation with higher education, business, and industry. Each center shall be governed by a policy board with a majority of classroom teachers.

The State Superintendent may set aside money to fund exemplary projects in the TEC centers.

State Role

ACTION

p.34 — The Task Force's chief recommendation is that every state governor work with the legislature, schools, business leaders, and others to develop a school improvement plan covering all grade levels. Each plan should acknowledge education's crucial economic role, suggest uses of technology, and set clear, measurable goals and timelines. Each governor should appoint a state Task Force on Education for Economic Growth to foster awareness, develop policies, and form coalitions for school improvement.

pp.34-41 — The state is mentioned as an actor in all 8 recommendations in this report. Please see text beginning in Part II.

CARNEGIE

pp.288, 290-291 — ". . . the states' role is to provide a framework for assuring equity and quality while avoiding over-regulation." State law should be revised to eliminate specific course requirements and confusing or inappropriate laws. The leadership role of the chief state school officer is critical.

GOODLAD

pp.58-60, 275, 295, 318 — [Similar to Carnegie]

NASSP

p.1 — School administrators should encourage the formation of state or local Task Forces to review the national reform reports and develop implementation plans.

ROUNDTABLE

pp.15-18 — Adopt <u>minimum</u> state graduation requirements for California school districts.

pp.18-19 — Set state curriculum guidelines and competencies in each academic subject area. Assist and monitor district compliance.

pp.20-21 — Strengthen the California Assessment Program.

pp.21-22 — Extend the state's K-8 textbook adoption process to grades 9-12.

pp.22-24 — Tighten state law on discipline, truancy, attendance, and dropout reporting.

pp.25-26 Lengthen secondary school day and year.

p.32 Develop a full-time state-level group to assess, plan for, and coordinate technical education in California.

pp.46-47 Create a state fund to increase the pay of math/science teachers, based on an 11-month work year.

pp.48-50 Stiffen state requirements for math and science teachers.

SB 813

Several state roles and funding programs are outlined. Please see the text beginning in Part II.

Student Promotion

ACTION

p.39 Promotion should be based on mastery, not age. End "social" promotion.

PAIDEIA II

p.14 [Similar to Action]

SB 813

Sec.81 Article 7 Each school district and county office of education shall adopt policies regarding pupil promotion and retention.

Students

EQUALITY

pp.32-33 [Similar to FEOL]

FEOL

p.6 Students must exhibit self-discipline, being willing to follow directions, complete assignments, respect other students and teachers, and obey the school's written code of rights and responsibilities.

NASSP

p.7 Schools and communities should honor high achieving students with awards and publicity.

RISK

pp.35-36 Students must take responsibility for their own learning, develop their talents and gifts, work with dedication and self-discipline, and hold high expectatins for themselves.

SB 813

Sec.123 Article 8 — Districts should encourage local business and industry to recognize pupils who receive an honors designation based on the Golden State Examination.

Study Skills

EQUALITY

pp.9-10 — Reasoning is a Basic Academic Competency. It includes the ability to: identify and formulate problems, propose and evaluate solutions, use inductive and deductive reasoning, recognize fallacies, draw conclusions from a variety of information sources, defend one's conclusions, use concepts and generalizations, and distinguish fact from opinion.

p.10 — Study skills are a Basic Academic Competency that include the ability to: set goals and priorities, follow a schedule, set an environment and habits conducive to independent or group learning, use outside resources and specialized vocabularies, follow instructions, synthesize knowledge, prepare for tests and other assessments, participate in class, and accept and learn from constructive criticism.

RISK

p.29 — Study skills instruction should begin in the early grades and continue throughout the years of schooling.

Teacher Certification

ACTION

p.39 — State certification standards for teachers and administrators should be raised. Flexibility should be added to encourage use of qualified business, scientific, and college personnel in the schools.

CARNEGIE

p.180 — Prospective teachers should apply to a state Teacher Licensure Board, submitting recommendations from their academic and education professors. A candidate should pass written exams in English proficiency and subject matter competence.

FEOL

pp.9-10 — Every prospective teacher should be screened with tests of subject matter competency and basic skills. However,

certification and employment should be based on other measures, as well, such as actual classroom performance.

MERIT PAY
p.6 — States should raise standards for entry into teaching to include at least an examination in subject matter.

PAIDEIA II
p.72 — ". . . we strongly believe that places should be found for persons who show themselves to be good teachers even if they are not certified."

ROUNDTABLE
pp.48-50 — Stiffen state requirements for math/science teacher credentials. Forbid districts from using "waiver" credentials to assign teachers not qualified by credentials, employment experience, or passage of a subject proficiency exam. Require one month of retraining every two years for credential maintenance.

SB 813
Sec.25 — After 9/1/85, persons applying for teaching credentials will have to demonstrate completion of 150 hours of professional growth every five years to maintain their credential.

Sec.65 — Prior to re-assigning an employee to teach a subject he or she has not previously taught and for which he or she has no credential or academic major, the district must have the employee pass a subject matter competency exam.

Teacher Education

ACTION
p.37 — Each state should develop "a substantially restructured and renewed curriculum for teacher training, which would include the management and application of technology" as well as substantially upgraded academic quality.

CARNEGIE
pp.175-177 — Proposes this program:

(1) Years 1 and 2 of college: a common core curriculum similar to the proposed high school core.
(2) Formal selection to teacher education after the sophomore year, requiring a 3.0 (B) grade point average and 2 faculty recommendations.
(3) Years 3 and 4: Completion of academic major plus classroom observation.
(4) Year 5: Methods courses and apprenticeship experience. Teaching coursework should cover: schooling in America, learning theory and research, the teaching of writing, and the use of technology

as a teaching tool. Also a series of 6 one-day Common Learning Seminars in which scholar-teachers relate their disciplines to contemporary issues.

FEOL

p.2 Beginning teachers need a comparatively moderate teaching load, extra supervision, and technical assistance from peers and supervisors. "All new teachers should have a substantial teacher internship experience."

GOODLAD

pp.315-316 Schools of education need closer ties to subject areas and a defined liberal undergraduate curriculum for prospective teachers. Student teaching should only be done at the innovative "key" schools so new teachers will learn new methods, not old ones. A 2 year program of professional studies and clinical experience prior to a period of resident status at a key school is recommended.

MERIT PAY

p.7 Schools of education should make their programs more rigorous and should raise admission standards.

PAIDEIA

pp.59-61 Teachers should be liberally educated through college. Specialized teacher training should be reserved for graduate courses or in supervised teaching practice.

"The skills of teaching can be developed only by coaching not by lecture courses in pedagogy—such as are now taught. . . ."

RISK

p.30 Graduates of teacher preparation programs should meet higher educational standards, demonstrating subject matter competence and an aptitude for teaching.

SB 813

Sec.24 Directs the Commission on Teacher Credentialing to work with teacher education programs on policies to ensure that faculty who teach methods courses actively participate in K-12 classrooms at least once every three years.

Sec.25.5 Article 7.5 Authorizes Commission on Teacher Credentialing to issue 2 year teacher trainee certificates to open secondary school teaching to those without graduate study in education. Trainees must have a BA and pass basic skills and subject matter exams. They may teach only in their academic major or minor under supervision of a mentor teacher. Upon completion of the program and recommendation by the school board, the teacher trainee will receive a credential. The commission will evaluate the effectiveness of this program and report to the Legislature by 1/1/87.

Sec.45 Teacher trainees may be employed only if it is shown that insufficient numbers of fully credentialed teachers are available. Districts shall create a professional development plan for each trainee in cooperation with an accredited school of education.

Teacher Employment and Evaluation

ACTION

p.39 Boards of education and colleges, in cooperation with teachers and administrators, should establish fair and objective systems for measuring teacher effectiveness and rewarding outstanding performance. Ineffective teachers, after due assistance and due process, should be dismissed.

FEOL

p.4 [Similar to Action]

RISK

p.30 An effective evaluation system, including peer review, should be the basis of teacher salary, promotion, tenure, and retention decisions.

SB 813

Sec.18 By 12/1/84 each district board must prepare policies that (1) certify the competence of teacher evaluators; (2) recognize the training and evaluation needs of probationary employees; and (3) provide avenues for parent complaints about employees.

Sec.31 Teachers receiving unsatisfactory evaluations on instruction can be required to enroll in a professional development program.

Sec.51-68 Outlines dismissal of permanent employees for incompetency or unprofessional conduct and probationary employees for cause. Nonsubstantive procedural errors shall not be used to reverse a decision to dismiss or suspend. In lay-offs or re-hirings, the district may deviate from seniority if it can demonstrate that needed skills or special training are held by less senior employees. Districts can terminate employees after passage of the Budget Act and before August 15, for demonstrable "lack of funds."

Sec.128 Allows collective bargaining regarding (1) procedures and criteria for layoff of employees due to lack of funds or (2) additional compensation based on criteria other than years of training/experience.

Teacher Recruitment

ACTION		
	p.37	States and localities should establish scholarships and incentives to attract top people to teaching.
CARNEGIE		
	pp.172-173	Every high school should establish a "cadet" teacher program to interest promising students in teaching careers. Colleges must overcome their bias against teacher education and should consider giving full-tuition scholarships to the top 5% percent of their gifted students who plan to become public school teachers, starting when the student enters the teacher preparation program at the beginning of the junior year.
	p.174	Establish a Federally-funded National Teacher Service, similar to the Peace Corps, providing top high school students full scholarships in return for at least 3 years of public school teaching, especially in science or math.
FEOL		
	pp.3-4	Attract the top 25% of college graduates to teaching through student loan forgiveness for 5 or more years of teaching or through summer scholarships and employment. Counselors, parents, peers, and the community must encourage prospective teachers.
MERIT PAY		
	p.8	Establish a Federal scholarship program for top high school students, regardless of need, who intend to enter teaching. The student would teach for two years in return for each year of scholarship assistance.
RISK		
	p.31	Nonschool personnel (e.g., recent graduates or retired professionals) should be recruited to alleviate the immediate shortage of math and science teachers. Other shortage areas, such as English, must also be addressed.
	p.31	[Similar to Action]
ROUNDTABLE		
	pp.39-42	Provide private and public scholarships and/or loans to qualified students who will teach secondary math or science for a minimum of 3 years. Develop dual-career options that allow a student or practicing teacher to pursue both teaching and another job.

SB 813

Sec.126 Article 6 — California Teacher Shortage Loan Assumption Program: the Student Aid Commission will repay Federal student loans, up to $8,000, for qualified college graduates or practicing teachers enrolled in appropriate training who agree to teach for 3 years in a California public school currently experiencing a teacher shortage in math, science, or some other key area.

TWENTIETH

p.14 — The federal government could encourage the recruitment of teachers in shortage areas (math, science, and foreign language at present) through loans to high caliber students. Up to 10% of the loan could be forgiven for every year spent teaching, up to five years.

Teacher Salaries

ACTION

p.37 — Salary schedules should be made competitive with those of other professions.

CARNEGIE

p.168 — ". . . as a national goal, salary averages for teachers [should] be increased by at least 25 percent beyond the rate of inflation over the next three years, with immediate entry-level increases."

p.170 — Add a two week Professional Development term onto the school year, with appropriate compensation.

p.184 — Rejects differential pay for high-demand teachers, e.g., math and science.

FEOL

p.3 — [Similar to Action] Provide experienced teachers with salary incentives to remain, ". . . such as the reduction of steps on salary scales. . . ."

MERIT PAY

p.6 — The basic pay of all teachers, and particularly that of entry-level teachers, should be raised. Performance-based pay experiments should be encouraged.

p.8 — The Federal government should establish a fellowship program for outstanding teachers to begin in 1985. Selected teachers would receive one year's salary and a one year study leave on condition the teacher return to the same school for two years.

NASSP

p.1 [Similar to Merit Pay, p.6]

RISK

p.30 ". . . should be increased and should be professionally competitive, market-sensitive, and performance based."

p.31 Teachers should work on an 11-month contract.

ROUNDTABLE

pp.46-47 Create a state fund to provide higher pay for math and science teachers, based on an 11-month work year.

SB 813

Sec.69 Raises lowest salary step by 30% over the next 3 years up to $18,000, adjusted for inflation.

Teaching Conditions

ACTION

p.38 Limit class size and free teachers of trivial demands.

CARNEGIE

p.91 Teachers of the required basic English class should carry no more than 2 such classes of 20 students each per term.

p.159 No high school teacher should carry more than 4 daily classes, plus one period for seminars or assisting independent study. Each teacher should have one hour minimum per day for preparation. Teachers should be exempt from all routine hall and lunch room monitoring.

pp.160-161 The work environment of teachers should be improved, e.g., better lounge areas, adequate supplies, and better safety through a firm discipline code.

MERIT PAY

p.8 With assistance from business and industry, schools should experiment with new forms of management, e.g., quality circles, to improve the work environment of teachers.

PAIDEIA II

pp.60-61 Lecture courses can contain 35 or more students. The coaching of intellectual skills requires a student-teacher ratio of no more than 10 to 1, preferably 5 or 6 to 1. Seminars should contain between 15 and 25 students, with one or two leaders.

RISK

p.3 "Administrative burdens on the teacher and related intrusions in the school day should be reduced to add time for teaching and learning."

Teaching Methods

ACSA

Encourages interdisciplinary teaching of core requirements.

CARNEGIE

p.149 "There is a place in the classrooms for telling or lecturing . . . . There is a place, too, for questions comes a time when probing questions should be asked . . . . Socratic questioning is indeed the hallmark of certain great teachers."

GOODLAD

pp.296, 311,319 Mastery Learning will provide more equal access to knowledge than tracking and ability grouping and it fosters cooperative peer learning.

p.299+ If we want students to learn to think, we must encourage teachers to go beyond present methods. One way would be to develop a network of exemplary, "key" schools free to try innovative practices. Magnet schools might be used. These schools would only experiment. The implementation process with other schools would be done by other demonstration schools. Key schools would network with universities and with each other.

PAIDEIA II

p.21 The Paideia Proposal's three required teaching modes: didactic instruction, coaching, and Socratic discussion must be integrated through all subjects and grade levels.

SB 813

Sec.94 The governing board of each district, with active involvement by educators, parents, and students, shall adopt alternate means of completing the required high school course of study, e.g., independent study, supervised work experience.

Testing

ACSA

Criterion referenced tests should be developed for course competency statements. Individual student performance should be periodically monitored by these tests.

ACTION

p.39 — Adopt periodic diagnostic testing of general student achievement and specific skills, tied to a carefully planned program of remediation and enrichment.

CARNEGIE

pp.88,108 — Every student's English language and mathematics achievement should be assessed the year before high school. Students needing additional assistance should receive it in a special summer term and through high school.

pp.132-135 — The SAT should be replaced by a new test, a Student Achievement and Advisement Test (SAAT) for all students. It should measure more accurately what the student has learned in the core curriculum and provide information to the student that will be useful in making future choices. Student assessment at the end of high school should also include "carefully constructed teacher evaluations, student-prepared portfolios containing academic and vocational work samples, a student interest inventory, as well as the Senior Independent Project . . ."

FEOL

p.9 — Testing should serve to diagnose learning needs and record achievements. Test results should not be the only factor considered in promotion, graduation, or college admission decisions. Current practice of reporting only math and reading scores gives a biased view of what is learned in school.

RISK

p.28 — "Standardized achievement tests. . . should be administered at major transition points from one level of schooling to another and particularly from high school to college or work. . . . The tests should be administered as part of a system of a nationwide (but not Federal) system of State and local standardized tests." The system should include diagnostic procedures.

ROUNDTABLE

pp.20-21 — Strengthen the California Assessment Program by: (1) adding social studies and science tests; (2) improving assessment of complex skills; and (3) expanding to each

grade, 7-12. Study the feasibility of using these tests for diagnosis as well as assessment.

SB 813

Sec.119 — Requires statewide testing in grades 3,6,8, 10, and 12, in basic skills and content courses. Grade 10 testing will be developed when funds are made available.

Sec.123 Article 8 — Establishes a voluntary Golden State Examination Program for high school students, to earn a special honors designation and insignia on their high school diploma. Examinations will be offered in academic subjects, to include English literature and composition, mathematics, laboratory sciences, foreign languages, United States history, and health sciences.

Vocational Education

ACSA

Basic High School Core includes 1 year entry-level occupational training, to include computer literacy; survival skills; and knowledge of work, ethics, job skills, and self.

CA MODEL

p.3 — While vocational education is not included in the model California graduation requirements, the State Board of Education considers it ". . . an essential part of the comprehensive high school program."

CARNEGIE

p.113 — All students should complete a seminar, covering 1 semester of time, on work, its importance, and the need to make responsible life choices. Students should also learn about economic changes affecting job opportunities.

pp.121-127 — Abolish the vocational "track" but retain and strengthen those courses appropriate to many students. End the narrow "marketable" skills courses that have little intellectual substance.

pp.275-276 — Business and industry should provide apprenticeship experiences and part-time and summer jobs for students to assist them in the school-to-work transition.

GOODLAD

pp.343-345 — [Similar to Carnegie]

NASSP

p.4 — Job-bound students "should be provided the opportunity to develop technical and occupational skills in school . . .

from typing and word processing to power mechanics and data machine repair."

PAIDEIA

pp.18-19, 22,33 — [Similar to Carnegie, pp.113, 121-127]

PAIDEIA II

p.20 — Require 6-8 years of manual training in the household arts.

SB 813

Sec.100 — Regional occupation centers shall provide individual vocational counseling, and curriculum relevant to current and future occupations, and assign highest priority to youth, ages 16-18, with incentive funding.

PART IV

OTHER REPORTS, PROJECTS, AND STUDIES

Two major high school reform studies have not yet published their reports*:

- o A Study of High Schools. Theodore R. Sizer and Arthur G. Powell, National Association of Secondary School Principals and National Association of Independent Schools.
- o Redefining General Education in the American High School. Gordon Cawelti, Association for Supervision and Curriculum Development.

The following descriptions are, therefore, culled from recently published articles, not from the reports themselves. Sources are noted.

Abstracts of selected subject-specific position papers, research studies, and school improvement project reports are also provided here. While their content is of great interest, these materials were not included in the main body of this report due to their special character.

Although it, too, is subject-focused (on mathematics, science, and technology education) Educating Americans for the 21st Century is similar to several of the major reform reports in the urgency of its tone and the sweep of its recommendations. It is included in this section because the manuscript arrived too late to be included in Parts II and III.

A Study of High Schools

Theodore R. Sizer, 18 Tremont Street, Boston, MA 02108, Telephone (617) 723-6900. Major volumes to be published by Houghton Mifflin:

- o Horace's Compromise: the Dilemma of the American High School, Theodore R. Sizer, January, 1984.
- o Historical Essays on American High Schools Since 1940, Robert L. Hampel, Spring-Summer, 1984.
- o A Comparative Analysis of Fifteen High Schools, Arthur G. Powell and others, Fall, 1984.

The following information was gathered from the study prospectus obtained from the above address and from "Essential Schools: A First Look," Theodore R. Sizer, NASSP Bulletin, October 1983, pp.33-38. (The latter supplies information mainly on Dr. Sizer's own volume, Horace's Compromise.)

*Another report often cited in the literature is: An Education of Value, Stephen K. Bailey and Judith B. McLaughlin, the National Academy of Education. Recent contact with the Academy indicates only that the work is not yet complete.

Co-sponsored by the National Association of Secondary School Principals and the Commission on Educational Issues of the National Association of Independent Schools, A Study of High Schools seeks to develop a richer context, both research-based and historical, in which to view the problems of today's high school. It focuses on three themes: the teacher-student-subject triangle; school climates characterized by agreement and consensus; and common educational purposes in a pluralistic society. Methods include brief visits to eighty secondary schools in the United States and Australia; literature reviews; historical research, including primary sources; and an in-depth field study of fifteen diverse American high schools, public and private.

In his NASSP Bulletin article, Theodore Sizer makes a number of observations based on the school visits. In brief, he finds that America has made a tremendous achievement in providing universal, free high school education, but by continuing to rely on the original high school model of the 1890s, it is sacrificing its quality and productivity. Some problems are: differential treatment of students (poor vs. rich, smart vs. average); student passivity and lack of intellectual engagement; fragmented curriculum emphasizing coverage over mastery; frustrated and underpaid educators; increasing centralization in governance leading to demoralization; and failure to use anything but easily-collected statistics in judging the schools.

Sizer feels that we need to completely restructure high school education and create "Essential Schools." He lists eight principles basic to his new form of schooling.

- Basic skills and civics should be mastered before entry into high school, no matter how long that takes in compulsory elementary education. High school, as a place of more advanced study, should be free and open to all for up to six years at any age, yet non-compulsory.
- The focus of the high school should be on teaching students to think. Vocational and career education should be handled by other institutions.
- The tone of the high school should be purposeful, unanxious, and safe, with a clear emphasis on the student's responsibility for learning.
- The high school diploma should be rewarded only when mastery is demonstrated, by whatever exhibitions are deemed appropriate.
- The main teaching method should be "coaching" as defined in The Paideia Proposal because intellectual skills can only be learned through practice and assistance.
- The curriculum should be simple and common to all students, based on the principle that "coverage" can be sacrificed if students learn a few things well and learn "how to learn."
- Learning should be personalized. No teacher should be responsible for more than eighty students. Interdisciplinary team teaching and independent study are two possible ways of reducing the student-teacher ratio.
- State and district standards are appropriate, but program details should be controlled at the school site.

While recognizing that his proposals may seem unrealistic, Sizer questions whether other suggested remedies, such as raising teachers' salaries or requiring a few more courses, can really make a significant change in our schools. To those who might object to focusing the high school program on intellectual skills, he replies:

> The greatest insult to young citizens is to assign them to their "appropriate track" early in life (say at age 14). To give everyone a chance to learn to use his or her mind well is not gentility, but democracy . . . . A focus on the mind is not elitism, but a necessity in a complex, turbulent culture and economy . . . . An education in how to think rigorously and imaginatively is the ultimate modern vocational education. (p.38)

Redefining General Education in the American High School

Gordon Cawelti, Executive Director, Association for Supervision and Curriculum Development, 225 North Washington Street, Alexandria, VA 22314, Telephone (703) 549-9110. Report to be published in spring of 1984.

The information provided below is summarized from "Network Schools Define What Students Need to Know: Report of the ASCD Project on Redefining General Education in the American High School," ASCD Curriculum Update, October 1983, 8pp. (Association for Supervision and Curriculum Development, 225 North Washington Street, Alexandria, VA 22314; 25 copy package @ $6, 50 @ $10, 100 or more @ $18 per 100, prepaid)

In 1980, seventeen high schools formed a network, under the auspices of the Association for Supervision and Curriculum Development (ASCD), to reconsider their general education curriculum. They met twice a year through July, 1983, to consider curricular approaches and to report on their own activities in redesign.

Results are varied. Most of the schools have created their definitions of general education, prepared objectives, and assessed course offerings but not yet implemented course or curriculum redesign.

Experiences of the participating schools point to a general process to follow in curriculum redefinition:

- Establish the Process.

  A public commitment to change—backed by the central office—and involvement of key groups must come early. The project needs a clear rationale, explicit timelines, and a periodic review of goals. The steering committee should have both continuity of leadership and

flexibility to reorganize if new people are needed for new tasks. Needs assessment may be a way to involve several groups. Teachers need special attention, for they may be skeptical of a redesign effort and feel that their "turf" is threatened.

- Select or Develop a Design.

  ASCD introduced network participants to several conceptions of general education, including knowledge frameworks developed by Ernest L. Boyer, Gordon Cawelti, Harry S. Broudy, and the College Board's Project EQuality. Different schools adopted different models; four schools designed their own.

- Define Specific Learnings.

  Based on its selected design, each school delineated specific elements of learning (objectives, skills, competencies, common learnings).

- Plan Curriculum.

  Each school examined its present offerings and student transcripts in light of its defined "common learnings." It was found in several cases that top students were already exposed to the essential learnings but that less successful students were not. Participants found that assessing common learnings encouraged teachers to think beyond departmental interests and to become more committed to curriculum revision.

- Recommend Changes to the School Board.

  The Board should be kept informed all the way along. There should be no surprises in the official report that recommends needed course revisions or additions.

- Implement.

  Although only a few network schools have reached this stage, it is recognized as critical. Concern is being expressed over monitoring and accountability. The issue of school-wide testing has provoked controversy. Some schools plan to design new assessment systems around their defined competencies while others will continue their reliance on in-class testing by teachers.

The ASCD network schools are now essentially on their own. From the beginning, the project has emphasized local development and change with only leadership, stimulation, and information provided by ASCD.

Network schools report these benefits of the redefinition process:

- It stimulated productive faculty discussion.
- Total course requirements have been raised.
- Seniors are being kept busy even if they've completed their credit requirements.
- More mathematics and science are being required, not just because of state mandates but by local choice.
- Whether to require competency in or just exposure to the essentials proved controversial, but several schools are moving toward an outcomes-based approach.

- o There is a clear commitment to basic skills mastery.
- o The process has shown that individual schools can work to redefine their curriculum and reach a consensus about essential learnings. For example, several schools are exploring new requirements, such as fine arts, computer literacy, or global awareness. Faculties have dealt with the issue of balance across the curriculum.
- o Course content is being redefined. Changes will be reported in an ASCD publication in the spring of 1984.
- o The networking experience and the team approach proved valuable in themselves.

A few drawbacks to the project were also seen:

- o Little collaboration with university scholars occurred.
- o The interdisciplinary approach was usually discarded as too difficult to accomplish.
- o Some topics (futures, foreign language) were not embraced as strongly as their advocates might have wished.
- o State mandates sometimes overwhelmed local curriculum decisions.
- o Change focused on curriculum content not teaching strategies, although the latter is expected to receive attention in the implementation phase. A followup on the schools is planned for the fall of 1984.

The ASCD Curriculum Update includes the Gordon Cawelti Model for High School General Education (p.5)* which consists of four areas (cultural studies, citizenship/social studies, science/technology, and health/recreation/leisure) grouped around the central learning/communicating/thinking skills: mathematics, composition, speaking, listening, reading, reasoning, problem solving, critical thinking, computer literacy and locational skills. For each of the four areas, both subjects and concepts/issues/topics are defined.

Educating Americans for the 21st Century

Educating Americans for the 21st Century: A Plan of Action for Improving Mathematics, Science and Technology Education for All American Elementary and Secondary Students So That Their Achievement Is the Best in the World by 1995. A Report to the American People and the National Science Board. Washington, DC: National Science Foundation. National Science Board Commission on Precollege Education in Mathematics, Science and Technology, 1983, Volume I [Report]: 124pp; Volume II [Source Materials]: 251pp. (National Science Foundation, 1800 G Street N.W., Washington, DC 20550, Telephone (202) 357-7700; free)

---

*This model is also on p. 571 of the following journal article: "Redefining General Education for the American High School," Gordon Cawelti, Educational Leadership, May 1982, pp. 570-572.

To highlight the urgency of its recommendations, the Commission* set 1995 as its deadline, since twelve years represent the full schooling cycle for one child.

While focusing on mathematics, science and technology (henceforth abbreviated MST) education, the Commission recommends sweeping changes to affect curriculum, teachers, and instruction. Its proposals go beyond the schools to call for change in informal education agencies such as museums and television. The Commission's plan would require approximately $1.51 billion in Federal expenditures for the first year, dropping to $331 million in the sixth year. State and local governments would continue to bear the major expense of public education. The plan's financial impact at those levels has not been estimated, but the Commission does recommend the following:

- "The President should immediately establish a Council on Educational Financing, which would examine the methods through which the Nation could marshal the resources to implement the Commission's recommendations. . . ." (p.66)

Along with finance, the Commission's key recommendations are: build leadership and national commitment; involve all students; increase instructional time; provide model programs as catalysts for change; improve the teaching profession and teaching conditions; raise MST requirements; revamp curriculum; incorporate new information technologies; and promote informal education.

- Build leadership and national commitment.
  Councils or Commissions should be formed at the national and state levels to set goals and generate public support. The Federal council should also oversee a new national student assessment mechanism designed to assist national, state, and local monitoring. Schools and school districts should form partnerships with local government, business, and the community to plan constructive change.

- Involve all students.
  School districts should eliminate all barriers to equal educational opportunity based on race, sex, ethnic/language background, or socioeconomic status. "Excellence and elitism are not synonymous." (p.14)

- Increase instructional time.
  Early and prolonged exposure to MST is required. Increased and more effective instruction in the elementary grades is a top priority. To provide more time in all grades, ". . . the school day, week, and/or year must be substantially lengthened." (p.23)

---

*The Commission on Precollege Education in Mathematics, Science and Technology consists of 21 members: academics; industrialists; and public educators including one state commissioner, one urban schools superintendent, the president of the National School Boards Association, and one high school mathematics teacher.

- Provide model programs as catalysts for change.

  The Federal government should promote and, in part, finance a network of exemplary elementary and secondary MST programs to be developed in every community. Initially, Federal funding should be allocated for at least 1,000 elementary and 1,000 secondary schools.

- Improve the teaching profession and teaching conditions.

  Teacher improvement is also a top priority. The skills and knowledge of current teachers should be upgraded through a five-year effort of federally-funded, state-level inservice offerings developed in cooperation with colleges, industry, and science organizations. Long-term staff development should be the responsibility of states and local districts.

  Standards and training for new MST teachers should be improved by more rigorous state certification requirements and improved teacher education programs. Prospective teachers should take ". . . a limited number of effective education courses" (p.31), an internship under a highly qualified teacher, and computer literacy training. Prospective elementary teachers should have a strong liberal arts background with appropriate coursework in mathematics and science. Prospective secondary teachers should have a full college major in the subject to be taught.

  To fill the current shortage, mathematics and science teachers should be recruited from universities, industry, the military, or government and provided with intensive education courses and supervision. State certification requirements should be modified to accommodate such teachers.

  Differential pay or career ladder plans that retain high quality teachers in shortage fields and that reward teaching excellence should be explored. An extended employment year for MST teachers is another local option. Industry, the military, and government should provide MST teachers with summer or supplemental employment. Excellent teachers should be publicly recognized and financially rewarded.

  States should establish regional training and resource centers to support MST teachers.

  The teaching environment should be improved by more rigorous discipline; more effective school administration; manageable class sizes; provision of adequate supplies; up-to-date curriculum and instructional materials; and greater student interest, involvement, and achievement. The latter may be promoted in part by effectively using standardized tests, reducing classroom interruptions, providing students with clear objectives or expectations, requiring homework, having clear attendance policies, and curtailing of social promotions.

- Raise MST requirements.

  In grades K-6, the minimum daily allocation should be 60 minutes for mathematics and 30 minutes for science. In both grade 7 and grade 8, a full year each of mathematics and science/technology should be required.

  High school graduation and college entrance requirements should be raised, the former by state law. By September 1, 1985, all secondary students should be required to take at least 3 years of mathematics (including 1 year of algebra) and at least 3 years of science and technology (including 1 semester of computer science).

Colleges should require applicants to take 4 years of high school science (including physics, chemistry and computer science) and 4 years of mathematics (including a second year of algebra and coursework in probability and statistics). Better guidance counseling and, when needed, remedial instruction should be provided to students.

Local and state curriculum development should consider several new educational objectives.* In elementary mathematics, these include facility with one-digit number facts; skills in mental arithmetic and estimation; ability to use calculators and computers; basic understanding of data analysis, probability and statistics concepts; and mastery of arithmetic operations. At the secondary level, traditional curriculum should be reexamined to make room for new content, emphases, or methods, e.g., discrete mathematics, elementary probability and statistics, algorithmic thinking in problem solving, discovery learning, computer graphics.

Science and technology instruction at all levels should emphasize students' questioning, problem solving, and critical/creative thinking skills; awareness of science and technology as occupational fields, including advanced subject knowledge for those pursuing further study; and knowledge adequate to a citizen's role in a technological society.

- Revamp curriculum.

Curriculum revision should be a continuous process, not a response to periodic crises. Although curriculum content is a local and state responsibility, the National Science Foundation should take a leadership role in curriculum materials evaluation, information dissemination, and development of up-to-date materials on technology, particularly for grades 8 and 9. Professional organizations should participate in curriculum development.

A particularly urgent need is computer literacy training for all students and teachers. Colleges, business, and government should help to promote this.

The Federal government should fund basic and applied research into the teaching and learning process, including study of the new technologies.

- Incorporate new information technologies.

The National Science Foundation should take a lead in this area by determining needs, evaluating current practices, supporting research and demonstration projects, and disseminating information.

States should consider development of regional teacher education and computer centers for training, demonstration, and materials evaluation.

---

*Complete lists of these objectives are provided on pp. 42-45. Greater detail is supplied in the Source Materials volume.

In the classroom, computers should be used for computer assisted instruction, for computer literacy training, and for classroom management to ease administrative burdens on MST teachers.

National and state education councils and private industry should work with local schools to integrate the educational technologies by 1995.

- Promote informal education.

  Youth organizations, science museums, broadcasters, and other community agencies should promote outside science learning with federal and private support. For example, corporations should fund science museums and federal regulation should require commercial TV stations to allocate time for children's educational programming.

  Science museums should serve as the focus for informal science learning. Whenever possible, they should offer a full range of educational and avocational programs with opportunities for "hands-on" experience.

  Private industry, the military, and government should create inhouse educational programs that allow students to see science and technology in action.

Appendixes to this report volume provide: (1) brief descriptions of educational programs reviewed by the Commission; (2) suggestions for course topics and criteria for selection, listing outcomes for K-8 mathematics, algebra, geometry, other secondary mathematics, K-8 science, biology, chemistry, physics, computer competency, and technology; (3) breakdown of costs for recommended federal initiatives; (4) suggestions for teacher compensation plans; and (5) a brief review on computers in education.

The second volume of Educating Americans for the 21st Century provides the following source documents:

- "The Mathematical Sciences Curriculum K-12: What is Still Fundamental and What is Not." The Conference Board of the Mathematical Sciences.
- "A Revised and Intensified Science and Technology Curriculum, Grades K-12 Urgently Needed for Our Future." Conference on Goals for Science and Technology Education Grade K-12.
- "Integrating Concepts of Engineering and Science into Instruction in Grade Levels K-12." Ad Hoc Subcommittee of the NSF Engineering Advisory Committee.
- "Fundamentals in Precollege Technology Education." Junior Engineering Technical Society.
- "Report on Educational Technology." Conference on the Uses of Technology in Education.
- "Research on Cognition and Behavior Relevant to Education in Mathematics, Science, and Technology." The Federation of Behavioral, Psychological and Cognitive Sciences.
- "Results of a 50-State Survey of Initiatives in Science, Mathematics and Computer Education." The Education Commission of the States.
- "Magnet Schools." The American Enterprise Institute (commissioned by the Pfizer Corporation).

- "An Assessment of Programs That Facilitate Increased Access and Achievement of Females and Minorities in K-12 Mathematics and Science Education (Summary)." Office of Opportunities in Science, American Association for the Advancement of Science.
- "A Case Study of Lyons Township High School (Summary)." Lorraine Borman and Peter Lykos.
- "Business' Role in Precollegiate Education." The Conference Board, Inc.

Others

California High School Curriculum Study: Paths Through High School. Nancy Sanders and others, Sacramento: California State Department of Education, December 1983. (California State Department of Education, 721 Capitol Mall, Sacramento, CA 94305)

[The following synopsis was written by the study authors and is reprinted here with their permission.]

Concern about high school achievement prompted the California State Department of Education to investigate the curriculum offered to students across the state. Twenty-six high schools were visited, and an analysis of the case studies reveals the following:

- Graduation requirements in California are generic within subject areas, resulting in students taking very different courses to graduate. Requirements in "English," "math," and "science" are for units of time, not content, spent in widely ranging courses within each area.

- What specific courses students take (and what content they learn) depends on the track they enroll in or are assigned to. "Tracks" are defined as sequences of courses planned for different achievement groups.

- All schools studied track students in math, English and science to accommodate differences in student achievement and aspirations. The tracking systems found varied from school to school, and within schools from department to department.

- We found two to five tracks (excluding special programs, e.g., bilingual). Most schools have three tracks: college preparatory, general, and lower or remedial. Many have advanced placement courses or a "gifted" track, much like college preparatory courses.

- California comprehensive high schools tend not to have a vocational track. Students are tracked in academic instruction and take vocational electives in schools, regional centers or community colleges.

153

- The content of the tracks, that is the specific courses offered, is determined by the teachers at each school. The University of California requirements in large part determine the college preparatory curriculum, resulting in the most consistent set of courses offered across the schools.

- Students who enter high school with good academic skills and who plan to attend college receive a significant advantage in the length and expectations of their coursework or track. In the schools studied, students in the college prep track accrue nearly one hour per day more academic instruction than general and lower track students, if they take the courses offered to them. Students in the general and lower tracks have shorter planned sequences from which to choose in English, math, and science. They have less access to courses offering advanced-level content. Teacher expectations of student work are lower, homework is less often assigned, and textbooks are often restricted to classroom use.

- The curriculum can be described in terms of allocations across different achievement cohorts of class time, content, and materials. In schools with a relatively homogenous student achievement level, the curriculum can be planned with depth in each area. In the majority of schools, however, students must be taught at widely differing achievement levels. This makes the offerings stretch thinner, much like a rubber band when pulled longer. Given fixed resources, schools with wide levels of achievement to serve have more difficulty offering a rich set of courses at all achievement levels. The students in the middle and lower tracks, because of the lack of external forces to structure the course offerings, seem most affected in terms of course sequences planned for them.

Education for Tomorrow's Jobs. Susan W. Sherman, ed., Washington, DC: National Research Council. Commission on Behavioral and Social Sciences and Education. Committee on Vocational Education and Economic Development in Depressed Areas, 1983, 116pp. (National Academy Press, 2101 Constitution Avenue N.W., Washington, DC 20418, Telephone (202) 334-2000; ISBN 0-309-03392-6, $10.50)

Established at the request of the U. S. Department of Education in October, 1981, this fifteen-member committee* studied the youth employment problem and vocational education delivery systems, especially collaborative arrangements between schools and business or community groups.

---

*Members are primarily academics, researchers, business and labor personnel, or state/regional educational and occupational education officers.

In its review of youth unemployment in a changing economy, the committee highlights as problems the shift from a manufacturing to a service economy, the impact of technological change in the workplace, and the failure of many young people to acquire basic skills (language fluency, reasoning, computation, work attitudes) in school.

In reviewing current vocational education, including work experience programs, Job Corps and CETA, the Committee concludes that while good vocational programs do benefit students, but that program quality varies widely. The vocational offerings of public comprehensive high schools are of greatest concern. This review also highlights the importance of supervised work experience in conjunction with education. In that light, the report provides descriptions of several collaborative projects with private-sector employers.

In its final chapter, the Committee draws these conclusions and makes these recommendations for strengthening vocational education:

- Vocational educators should take a more aggressive role in local economic development initiatives.
- The public schools, K-12, have a responsibility to prepare students in the skills and work habits they need for employment. Vocational programs should not suffer in comparison to college preparatory programs.
- Private sector collaboration should be promoted. Mechanisms and incentives should be devised "to induce educators and employers to work together in the planning and provision of occupational education and training." (p.71)
- Public school vocational education should be coordinated with employment training programs under the Job Training Partnership Act (JTPA).
- Competency-based work experience and apprenticeship programs should be provided with completion being based on mastery, not on time served. Program revision to meet this challenge should take place at the local and at the Federal level.
- High school vocational teaching should be strengthened through:
  (1) change in certification requirements to allow selection of occupationally-trained personnel who are judged competent in both teaching and in the subject to be taught but who lack traditional teacher education coursework;
  (2) change in teacher education curricula to include short courses for occupationally-trained personnel;
  (3) inservice training for vocational teachers that includes regular internships in industry;
  (4) recruitment of part-time teachers from industry; and
  (5) pay systems that reward individual excellence and permit differentiation by subject field.
- Funding formulas should be created that are based not just on enrollment figures but on such factors as equipment costs and student remediation needs.
- Additional funding should be provided for remediation of educationally disadvantaged students and for program improvement efforts.
- Access to vocational education by disadvantaged students should be improved by Federally-funded vocational incentive grants that pay

public or private institutions more than the average expenditure-per-vocational-student for every economically disadvantaged student (ages 14-18) they enroll.

- Under this grants system, the student would select the institution he or she attends; therefore, all such institutions must be required to provide honest consumer ("truth in training") information.

Effective High Schools: What Are Their Attributes? Samuel S. Peng and others, 1982, 30pp. (ERIC document: ED 227 583; 1 microfiche)

Base year data from 1,015 high schools in the longitudinal High School and Beyond study (National Center for Education Statistics) was analyzed to identify school attributes (policies, resources, and practices) associated with students' cognitive achievement, attendance, misbehavior, and educational expectations. Achievement was measured by a composite of reading, math, and vocabulary test scores.

Four school variables were found to be predictive of student test scores.

- Percentage of students in an academic curriculum
- Number of math and science courses offered
- School type: ". . . public schools had higher senior test scores than private schools after all other variables in the model were accounted for." (p.11)
- Participation in intellectual extracurricular activities

Effectiveness of school discipline, presence of a minimum competency requirement, artistic activity, and discipline rules all related slightly to student achievement.

Schools with more students in an academic program also experienced less student absenteeism and misbehavior and higher expressed educational expectations among students.

"Effective schools, as measured by academic achievement, seem to be those that emphasize academic programs and the maintenance of an orderly environment. . . . Perhaps it is time for school policymakers to closely examine their course offerings and their discipline policies." (pp.12-13)

Ends Not Means: The Policy Implications of Effective Schools Research. Draft. Steward C. Purkey and Marshall S. Smith, Madison, WI: Wisconsin Center for Education Research, 1982, 23pp. (ERIC document: ED 224 112; 1 microfiche)

Reviewing the school effectiveness research, the authors highlight the critical effect of the school's culture or "ethos" on student achievement. They list thirteen features likely to be found in an effective school culture:

- School site management
- Leadership to initiate and maintain improvement
- A stable staff
- Planned and coordinated curriculum focused on basic skills and academics
- Ongoing, school-wide staff development linked to local needs
- Parent involvement and support
- School-wide stress on academic achievement and an honoring of academic success
- Maximized learning time without disruptions or interruptions
- District support
- Collaborative planning and collegial relationships
- A sense of community
- Clear goals and shared high expectations
- Order and discipline typifying the school's seriousness about learning

They recommend these Federal and state policy approaches to improving schools by means of improving their culture:

- Policy should be directed toward bottom-up change since "culture" is school-specific and can only be altered at the school site level. Local initiative and planning must predominate.
- In light of this, existing Federal programs should be modified to allow greater local discretion.
- Federal concern for civil rights and for the disadvantaged should not decrease but could be better accomplished through incentives than through mandates.
- States could identify priorities and methods for school improvement and motivate districts toward these goals through supplementary funding. States might also supply inservice education.

Ensuring Excellence in Rural Education: Proceedings of the Rural Education Seminar (Washington, D.C., May 3-5, 1982). Anne Lewis, Arlington, VA: American Association of School Administrators, 1982, 95pp. (ERIC document: ED 225 771; 1 microfiche)

Drawing from conference papers, this report provides an overview on rural education in America, examples of excellence, and a review of areas of continuing need.

Although it is concluded that rural schools offer no one model or set of needs, attention to these areas is recommended (pp.67-72):

- o Adequately trained educators (preservice and inservice programs tailored to the special skills needed by rural teachers and administrators);
- o Opportunities to develop rurally-relevant curriculum, with special attention to the promises of technology;
- o Assessment of rural students' instructional needs;
- o Long-range planning;
- o Sensitivity by state and Federal officials to the "rural situation" on issues of mandates and funding;
- o Careful examination of the impact of decreased Federal aid, especially on disadvantaged children;
- o Regional, state, and national data banks to support long range planning and resource sharing;
- o Cooperative efforts, such as the successful education service agency model; and
- o Leadership in local communities.

Essentials of English: A Document for Reflection and Dialogue. Urbana, IL: National Council of Teachers of English, 1982, 6pp. (NCTE Order Department, 1111 Kenyon Road, Urbana, IL 61801; up to 14 copies free, 15 or more @ 5¢ each.)

Approved by the NCTE Executive Committee in October, 1982, this statement outlines the organization's rationale for teaching English, expected student outcomes, and the responsibility of English teachers. Objectives are provided for the study of language, literature, communication skills (reading, writing, speaking, listening, using media), and thinking skills (creative, logical, and critical thinking). Emphasis is placed on language as a means for self-discovery and honest, intelligent communication, and as a source of delight and creativity.

Profiles of Selected Innovating Secondary Schools. Working Paper No. 259. Herbert J. Klausmeier, Madison, WI: Wisconsin University Research and Development Center for Individualized Schooling, 1979, 147pp. (ERIC document: ED 173 928; 2 microfiche)

The Wisconsin Program for the Renewal and Improvement of Secondary Education (WRISE) provides support to a network of middle and high schools that are seeking to improve through the use of these WRISE comprehensive objectives:

- o Shared decision-making through district and site committees and councils that include teachers and counselors;
- o Formation of Instruction and Advisory Units of 50-200 students and a team of 2 to 5 teachers for core academic instruction and student advisement;
- o Individualized programming for each student through (1) regular planning conferences between the student and his or her teacher/advisor, (2) clearly stated developmental course objectives, and (3) monitoring of student performance;
- o Comprehensive yet flexible curriculum, elimination of tracking, and attention to students with special needs;
- o Community learning experiences and work experience as part of the study program for job-bound students and for all other interested students;
- o Systematic self-evaluation of student progress and local improvement efforts;
- o Increasing emphasis with age on student responsibility and decision making;
- o Effective home-school-community communication and cooperation, including at least one annual conference between student, parent, and teacher/advisor;
- o Staff development devoted to problem solving and school renewal skills; and
- o Continuous research and development conducted at the local site in cooperation with external agencies.

Two-page profiles and directory information are provided for over fifty participating junior, middle, and high schools, including a check list to note which of the WRISE features are operative at that school.

"Schools of Choice: Their Current Nature and Prospects." Mary Anne Raywid, Phi Delta Kappan, June 1983, pp.684-688.

This article highlights some findings of the Project on Alternatives in Education (PAE), a recent national survey of alternative schools that was patterned after the Eight-Year Study of the 1930s.

It identified 2,500 alternative schools and estimates that two to four times that number actually exist. Staff morale and attendance are high; the quality of teacher/student interaction is seen as a distinctive feature. In sixty-two percent of the alternative schools, per-pupil costs are the same or lower than in neighboring programs. Economies are practiced in plant and equipment; teachers are viewed as the central ingredient. The schools are not segregated, nor are they "fly-by-night." Half of those studied are at least six years old.

Raywid suggests that these factors contribute to the success of alternative schools:

- Smallness — Sixty-nine percent are under 200 enrollment.
- Choice -- Most students are there by choice, but even a higher percentage of teachers are. "There are grounds for speculating that choice may be even more important for teachers than for students: increased attendance correlates more strongly with teacher choice than with student choice." (p.685)
- Extended Roles — Students, staff, and administrators have larger domains of responsibility and more opportunities for pleasant interaction. For example, students may be responsible for some maintenance tasks; teachers often share some administrative duties.
- Relative Autonomy — Staff members and administrators have higher than average decision making power and control.
- Continuing Evaluation — Eighty-five percent of the surveyed schools undergo regular formal evaluations which may improve their awareness of and reaction to developing problems. Frequent evaluations seem to be the price they pay for their relative autonomy.
- Teachers as the Central Ingredient — Most schools view the teacher/student relationships and instructional methods as their most distinctive features, thus making teachers the core of their operations.
- Nontraditional Teaching Methods — More than half of the responding schools reported using distinctive methods, such as independent study, community service, field trips, or peer teaching.
- School Climate -- Alternative schools seem to be more like private than public schools in providing the caring, cohesive school climate shown by research to be important. Alternative high schools are more successful than regular high schools in dealing with the "whole student."

Raywid concludes by noting that wide diversity and choice contributed to this success in alternative education and questions whether present calls for "tightening up" will serve our schools as well.

This We Believe. John H. Lounsbury, ed., Columbus, OH: National Middle School Association, 1982, 25pp. (Publications, National Middle School Association, P.O. Box 14882, Columbus, OH 43214; $3.25, quantity discount or ERIC document: ED 226 513; 1 microfiche)

This position statement reviews the rationale for middle school education which is based on the unique characteristics of the "transescent" child, ages 10-14. It defines these ten "essential elements of a 'true' middle school" (pp.10-16):

- Educators knowledgeable about and committed to transescents
- A balanced curriculum based on transescent needs

- A range of organizational arrangements
- Varied instructional strategies
- A full explorative program
- Comprehensive advising and counseling
- Continuous progress for students
- Evaluative procedures compatible with nature of transescents
- Cooperative planning
- Positive school climate

PART V

REFERENCES

REPORTS CITED: 16 RECENT REFORM PROPOSALS

Academic Preparation for College: What Students Need to Know and Be Able to Do. New York: The College Board Project EQuality, 1983, 46pp. (Single copies: Office of Academic Affairs, The College Board, 888 Seventh Avenue, New York, NY 10106, Telephone (212) 582-6210; free. Multiple copies: College Board Publications, Department A35, Box 886, New York, NY 10101; packets of 20 @ $20, 20% discount on orders of 5 or more packets, prepaid)

"ACSA's Recommendations on Standards." Ed Cal, February 21, 1983, p.2.

Action for Excellence: A Comprehensive Plan to Improve Our Nation's Schools. Denver CO: Education Commission of the States. Task Force on Education for Economic Growth, 1983, 51pp. (The Distribution Center, Education Commission of the States, 1860 Lincoln, Suite 300, Denver, CO 80295, Telephone (303) 830-3820; $5.00, prepaid)

Education and Economic Progress. Toward a National Education Policy: The Federal Role. New York: The Carnegie Corporation, 1983, 15pp. (The Carnegie Corporation, 437 Madison Avenue, New York, NY 10022, Telephone (212) 371-3200; free)

Educational Reform: A Response from Educational Leaders. Washington, DC: Forum of Educational Organization Leaders, 1983, 10pp. (Forum of Educational Organization Leaders, Attention: Dr. Harold Hodgkinson, 1001 Connecticut Ave., N.W. Suite 310, Washington, DC. 20036, Telephone: (202) 429-0114; free)

High School: A Report on Secondary Education in America. The Carnegie Foundation for the Advancement of Teaching. Ernest L. Boyer, New York: Harper and Row, 1983, 363pp. (ISBN 0-06-015193-5; $15.00)

Improving Student Performance in California: Recommendations for the California Roundtable. Berkeley, CA: Berman, Weiler, Associates, 1982, 87pp. (California Roundtable, 575 Market Street, Room 1942, P.O. Box 7643, San Francisco, CA 94119-7643, Telephone (415) 974-5721)

Making the Grade: Report of the Twentieth Century Fund Task Force on Federal Elementary and Secondary Education Policy. New York: Twentieth Century Fund, Inc., 1983, 174 pp. (The Twentieth Century Fund, 41 East 70th Street, New York, NY 10021, Telephone (212) 535-4441; ISBN: 0-87078-151-0; $6.00)

Merit Pay Task Force Report. Washington, DC: United States House of Representatives Committee on Education and Labor, 1983, 9pp. (House Education and Labor Committee, Room 2181, Rayburn Office Building, Washington, DC 20515; free)

"NASSP Develops Positions on National Reports on American Ed." NASSP News Leader, September 1983, pp.1, 3-4, 7-8.

A Nation at Risk: The Imperative for Educational Reform. An Open Letter to the American People. A Report to the Nation and the Secretary of Education. David P. Gardner and others, Washington, DC: National Commission on Excellence in Education, 1983, 73pp. (Superintendent of Documents, Government Printing Office, Washington, DC 20402; Stock No. 065-000-00177-2; $4.50 or ERIC document: ED 226 006; 1 microfiche)

The Paideia Proposal: An Educational Manifesto. Mortimer J. Adler, New York: Macmillan Publishing Company, Inc., 1982, 84 pp. (ISBN 0-02-500240-6; $6.95)
Paideia Problems and Possibilities. Mortimer J. Adler, New York: Macmillan Publishing Company, Inc., 1983, 113 pp. (ISBN 0-02-500220-1; $7.95)

A Place Called School: Prospects for the Future. John I. Goodlad, New York: McGraw-Hill Book Company, 1983, 396pp. (ISBN 0-07-023626-7; $18.95)

Raising Expectations: Model Graduation Requirements: Approved Unanimously by the California State Board of Education on June 10, 1983. Sacramento: California State Department of Education, 1983, 84pp. (Publications Sales, California State Department of Education, P.O. Box 271, Sacramento, CA 95802, Telephone (916) 445-1260; $2.75, California residents add sales tax)

Senate Bill 813, Chapter 498 of the Statutes of 1983: The Hughes-Hart Education Act of 1983. Sacramento: California State Legislature, 1983, 214pp.

University of California Requirements for Freshman Admission (Effective 1986). Pamphlet, 4pp. (California State Department of Education Resource: Mr. Paul Gusmen, Telephone (916) 445-1703)

OTHER REPORTS, PROJECTS, AND STUDIES

California High School Curriculum Study: Paths Through High School. Nancy Sanders and others, Sacramento: California State Department of Education, December 1983. (California State Department of Education, 721 Capitol Mall, Sacramento, CA 94305)

Educating Americans for the 21st Century: A Plan of Action for Improving Mathematics, Science and Technology Education for All American Elementary and Secondary Students So That Their Achievement Is the Best in the World by 1995. A Report to the American People and the National Science Board. Washington, DC: National Science Foundation. National Science Board

Commission on Precollege Education in Mathematics, Science and Technology, 1983, Volume I [Report]: 124pp; Volume II [Source Materials]: 251pp. (National Science Foundation, 1800 G Street N.W., Washington, DC 20550, Telephone (202) 357-7700; free)

Education for Tomorrow's Jobs. Susan W. Sherman, ed., Washington, DC: National Research Council. Commission on Behavioral and Social Sciences and Education. Committee on Vocational Education and Economic Development in Depressed Areas, 1983, 116pp. (National Academy Press, 2101 Constitution Avenue N.W., Washington, DC 20418, Telephone (202) 334-2000; ISBN 0-309-03392-6, $10.50)

Effective High Schools: What Are Their Attributes? Samuel S. Peng and others, 1982, 30pp. (ERIC document: ED 227 583; 1 microfiche)

Ends Not Means: The Policy Implications of Effective Schools Research. Draft. Steward C. Purkey and Marshall S. Smith, Madison, WI: Wisconsin Center for Education Research, 1982, 23pp. (ERIC document: ED 224 112; 1 microfiche)

Ensuring Excellence in Rural Education: Proceedings of the Rural Education Seminar (Washington, D.C., May 3-5, 1982). Anne Lewis, Arlington, VA: American Association of School Administrators, 1982, 95pp. (ERIC document: ED 225 771; 1 microfiche)

Essentials of English: A Document for Reflection and Dialogue. Urbana, IL: National Council of Teachers of English, 1982, 6pp. (NCTE Order Department, 1111 Kenyon Road, Urbana, IL 61801; up to 14 copies free, 15 or more @ 5¢ each.)

Profiles of Selected Innovating Secondary Schools. Working Paper No. 259. Herbert J. Klausmeier, Madison, WI: Wisconsin University Research and Development Center for Individualized Schooling, 1979, 147pp. (ERIC document: ED 173 928; 2 microfiche)

Redefining General Education in the American High School. Gordon Cawelti, Executive Director, Association for Supervision and Curriculum Development, 225 North Washington Street, Alexandria, VA 22314, Telephone (703) 549-9110. Report to be published in spring of 1984.

Preliminary Information: "Network Schools Define What Students Need to Know: Report of the ASCD Project on Redefining General Education in the American High School," ASCD Curriculum Update, October 1983, 8pp. (Association for Supervision and Curriculum Development, 225 North Washington Street, Alexandria, VA 22314; 25 copy package @ $6, 50 @ $10, 100 or more @ $18 per 100, prepaid)

"Schools of Choice: Their Current Nature and Prospects." Mary Anne Raywid, Phi Delta Kappan, June 1983, pp.684-688.

A Study of High Schools. Theodore R. Sizer, 18 Tremont Street, Boston, MA 02108, Telephone (617) 723-6900. Major volumes to be published by Houghton Mifflin: Horace's Compromise: the Dilemma of the American High

School, Theodore R. Sizer, January, 1984; Historical Essays on American High Schools Since 1940, Robert L. Hampel, Spring-Summer, 1984; A Comparative Analysis of Fifteen High Schools, Arthur G. Powell and others, Fall, 1984.

Preliminary Information: "Essential Schools: A First Look," Theodore R. Sizer, NASSP Bulletin, October 1983, pp. 33-38

This We Believe. John H. Lounsbury, ed., Columbus, OH: National Middle School Association, 1982, 25pp. (Publications, National Middle School Association, P.O. Box 14882, Columbus, OH 43214; $3.25, quantity discount or ERIC document: ED 226 513; 1 microfiche)

ADDITIONAL READINGS

"Almanac of National Reports." Reston, VA: National Association of Secondary School Principals, 1983, poster. (Publications Department, NASSP, 1904 Association Drive, Reston, VA 22091, Telephone (703) 860-0200; $2.00)

The American High School: Time for Reform. Bruce O. Boston: Washington, DC: Council for Basic Education, 1982, 39pp. (Council for Basic Education, 725 Fifteenth Street N.W., Washington, DC 20005; $3.00 or ERIC document: ED 223 753; 1 microfiche)

"The Bold Quest for Quality: The Nation's Public Schools are Shaping Up." Dorothy Ferenbaugh and others, Time, October 10, 1983, pp.58-66.

"Education Moves to Center Stage: An Overview of Recent Studies." Harold Howe II, Phi Delta Kappan, November 1983, pp.167-172.

Effective Schools--A Review. Stewart C. Purkey and Marshall S. Smith. Madison, WI: Wisconsin Center for Education Research, 1982, 70pp. (ERIC document: ED 221 534; 1 microfiche)

Effective Schools Programs in High Schools: Implications for Policy, Practice and Research. Volume III. Review of Effective Schools Programs. Final Report. Eleanor Farrar and others, Cambridge, MA: Huron Institute; Washington, DC: National Commission on Excellence in Education, 1983, 40pp. (ERIC document: ED 228 243; 1 microfiche)

Excellence and Equity in American Education. Alexander W. Astin, Washington, DC: National Commission on Excellence in Education, 1982, 30pp. (ERIC document: ED 227 098; 1 microfiche)

Excellence in Our Schools: Making It Happen. William G. Spady, ed., San Francisco, CA: Far West Laboratory for Educational Research and Development, December 1983. (Order Department, Far West Laboratory, 1855 Folsom Street, San Francisco, CA 94103; 1-4 copies @ $11.95 each, 5-9 copies @ $9.95 each, 10+ copies @ $8.95 each)

The Extent of Adoption of Effective Schools Programs. Vol. II. Review of Effective Schools Programs. Matthew B. Miles and others, Cambridge, MA: Huron Institute; Washington, DC: National Commission on Excellence in Education, 1983, 58pp. (ERIC document: ED 228 242; 1 microfiche)

A Review of Effective Schools Research: The Message for Secondary Schools. Barbara Neufeld and others, Cambridge, MA: Huron Institute; Washington, DC: National Commission on Excellence in Education, 1983, 44pp. (ERIC document: ED 228 241; 1 microfiche)

"School Reform: Four Points of View." James M. Howard, Basic Education, October 1983, pp.3-9.

Standards, Curriculum, and Performance: A Historical and Comparative Perspective. Revised. Lauren B. Resnick and Daniel P. Resnick, Washington, DC: National Commission on Excellence in Education, 1982, 53pp. (ERIC document: ED 227 104; 1 microfiche)

State Programs of School Improvement: A 50-State Survey. Allan Odden and Van Dougherty, Denver, CO: Education Commission of the States. Education Programs Division, 1982, 52pp. (Publications Desk, Education Commission of the States, Suite 300, 1860 Lincoln Street, Denver, CO 80295: $3.00 or ERIC document: ED 224 135; 1 microfiche)

The Study and Improvement of American High Schools: A Portrait of Work in Progress. Fred M. Newmann and Steven L. Behar, Madison, WI: Wisconsin Center for Education Research, 1982, 99pp. (ERIC document: ED 224 849; 2 microfiche)

SMERC (San Mateo Educational Resources Center) is a department within the Educational Support and Planning Division of the San Mateo County (California) Office of Education. A pioneer in the field of educational information dissemination and online literature search services since 1967, SMERC meets the needs of practitioners by providing online access to ERIC (Educational Resources Information Center) and a rich collection of additional materials of particular relevance to educators. In addition to serving more than thirty agencies throughout California, SMERC reaches subscribers in Alaska, Arizona, Washington, Oregon, Colorado, Florida, Hawaii, and the U. S. Virgin Islands.

For further information, call (415) 363-5450.